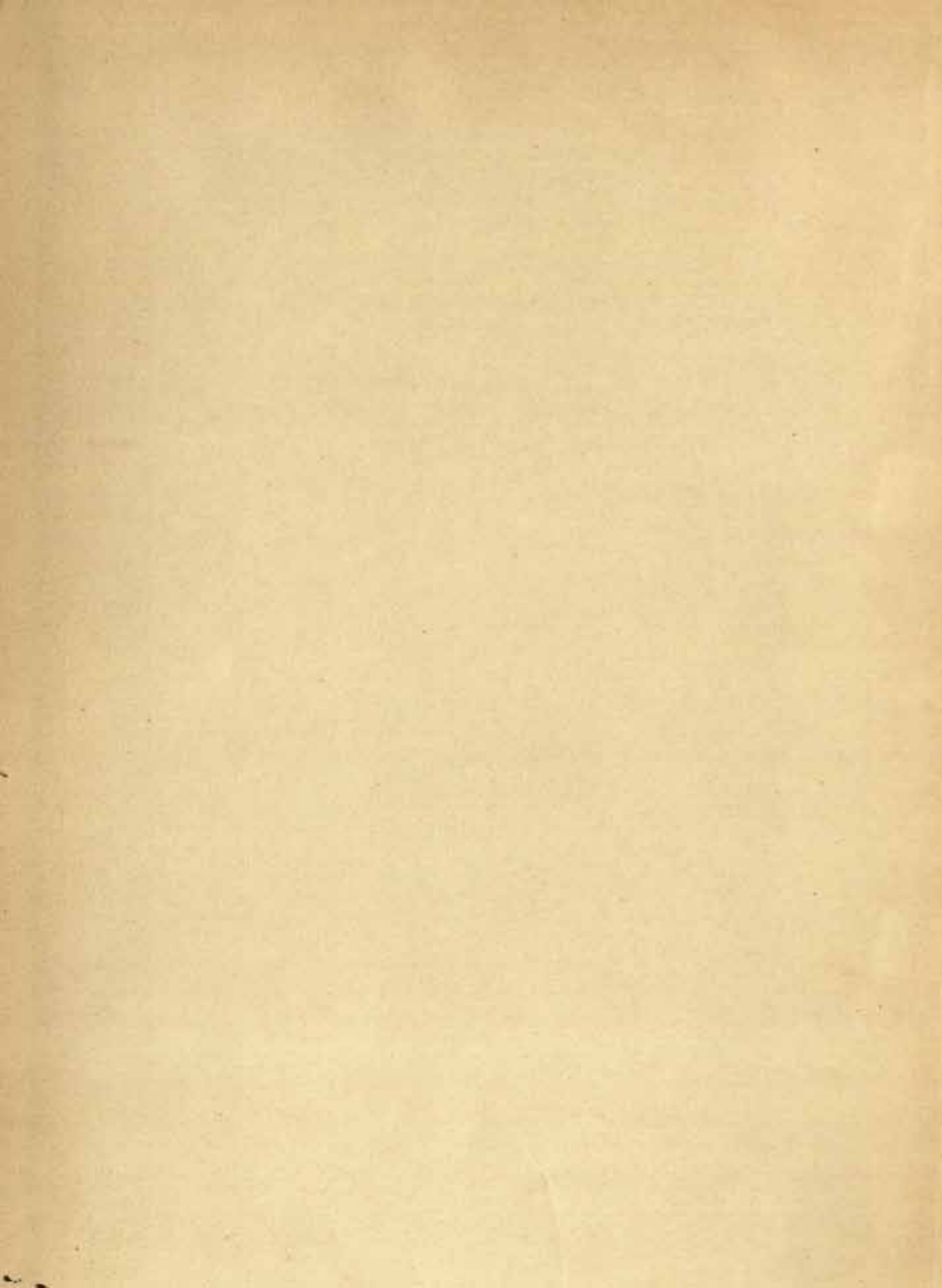


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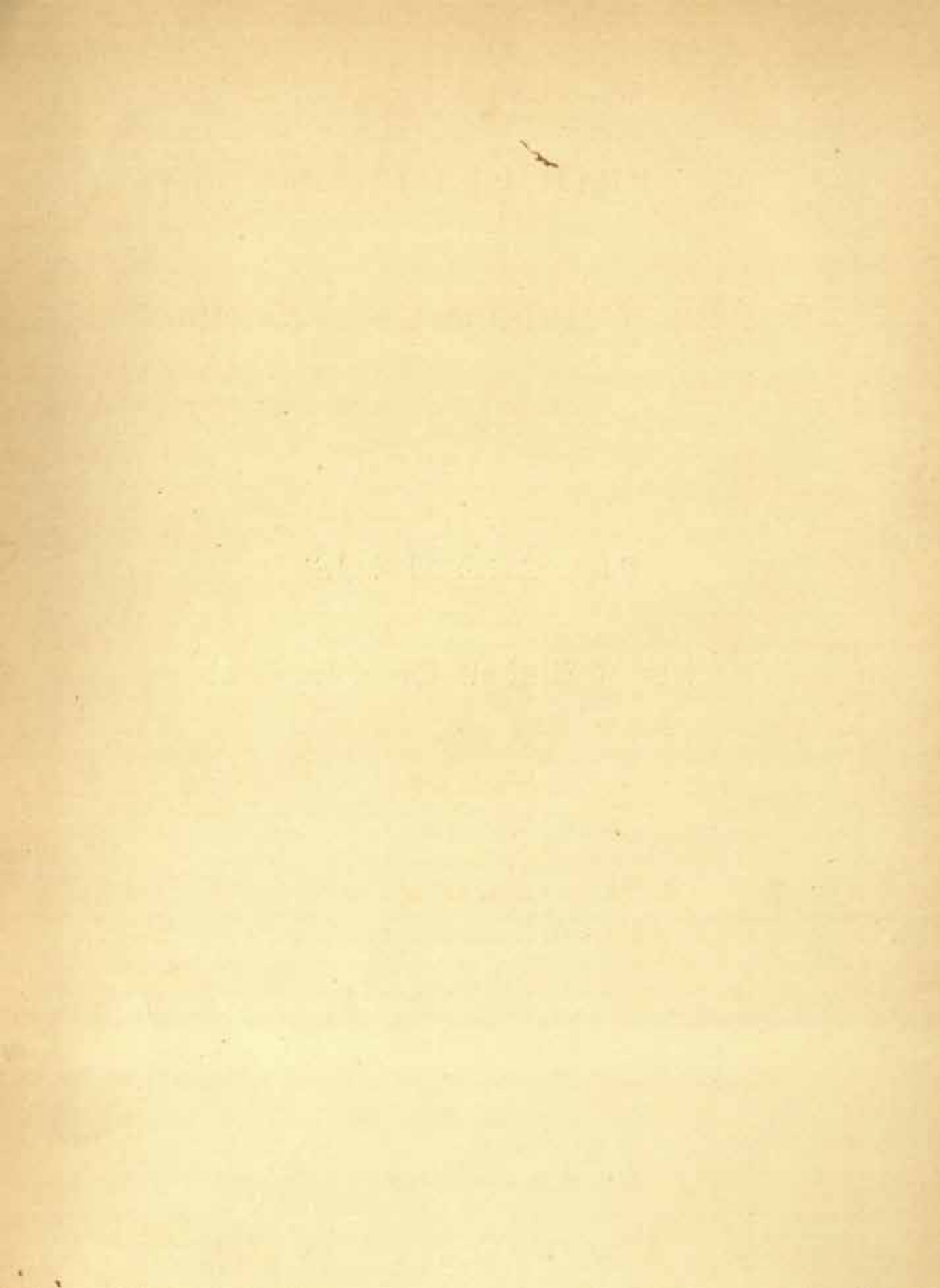






PROCEEDINGS
OF THE
Society of Antiquaries of Scotland





PROCEEDINGS

OF THE

Society of Antiquaries of Scotland

SESSION

MCMXXXI.-MCMXXXII.



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LAWS
AND
LIST OF FELLOWS
OF THE
SOCIETY OF ANTIQUARIES OF SCOTLAND

L A W S

OF THE

SOCIETY OF ANTIQUARIES OF SCOTLAND.

INSTITUTED NOVEMBER 1780 AND INCORPORATED BY
ROYAL CHARTER 6TH MAY 1783.

(Revised and adopted November 30, 1901.)

1. The purpose of the Society shall be the promotion of ARCHÆOLOGY, especially as connected with the investigation of the ANTIQUITIES AND HISTORY OF SCOTLAND.

2. The Society shall consist of Fellows, Honorary Fellows, Corresponding Members, and Lady Associates.

3. Candidates for admission as Fellows must sign the Form of Application prescribed by the Council, and must be proposed by a Fellow and seconded by two members of the Council. Admission shall be by ballot.

4. The Secretaries shall cause the names of the Candidates and of their Proposers to be inserted in the billet calling the Meeting at which they are to be balloted for. The Ballot may be taken for all the Candidates named in the billet at once; but if three or more black balls appear, the Chairman of the Meeting shall cause the Candidates to be balloted for singly. Any Candidate receiving less than two-thirds of the votes given shall not be admitted.

5. Honorary Fellows shall consist of persons eminent in Archæology, who must be recommended by the Council, and balloted for in the same way as Fellows; and they shall not be liable for any fees of admission or annual subscriptions. The number of Honorary Fellows shall not exceed twenty-five.

6. Corresponding Members must be recommended by the Council and balloted for in the same way as Fellows, and they shall not be liable for any fees of admission or annual subscriptions.

7. Ladies who have done valuable work in the field of Archæology may be admitted as Lady Associates. The number of Lady Associates shall not exceed twenty-five. They shall be proposed by the Council and balloted for in the same way as Fellows, and shall not be liable for any fees of admission or annual subscriptions.

8. Before the name of any person is added to the List of Fellows, such person shall pay to the funds of the Society Two Guineas as an entrance fee and One Guinea for the current year's subscription, or may compound for the entrance fee and all annual subscriptions by the payment of Twenty Guineas at the time of admission. Fellows may compound for future annual subscriptions by a single payment of Fifteen Guineas after having paid five annual subscriptions; or of Ten Guineas after having paid ten annual subscriptions.

9. The subscription of One Guinea shall become due on the 30th November in each year for the year then commencing; and if any Fellow who has not compounded shall fail to pay the subscription for three successive years, due application having been made for payment, the Treasurer shall report the same to the Council, by whose authority the name of the defaulter may be erased from the list of Fellows.

10. Every Fellow not being in arrears of the annual subscription shall be entitled to receive the printed Proceedings of the Society from the date of election.

11. None but Fellows shall vote or hold any office in the Society.

12. Subject to the Laws and to the control of the Society in General Meetings, the affairs of the Society shall be managed by a Council elected and appointed as hereinafter set forth. Five Members of the Council shall be a quorum.

13. The Office-Bearers of the Society shall consist of a President, three Vice-Presidents, two Secretaries for general purposes, two Secretaries for Foreign Correspondence, a Treasurer, two Curators of the Museum, a Curator of Coins, and a Librarian. The President shall be elected for a period of five years, and the Vice-Presidents for a period of three years.

One of the Vice-Presidents shall retire annually by rotation and shall not again be eligible for the same office until after the lapse of one year. All the other Office-Bearers shall be elected for one year and shall be eligible for re-election.

14. In accordance with the agreement subsisting between the Society and the Government, the Board of Manufactures (now the Board of Trustees) shall be represented on the Council by two of its Members (being Fellows of the Society) elected annually by the Society. The Treasury shall be represented on the Council by the King's and Lord Treasurer's Remembrancer (being a Fellow of the Society).

15. The Council shall consist of the Office-Bearers, the three representative Members above specified, and nine Fellows, elected by the Society.

16. Three of the nine elected Members of Council shall retire annually by rotation, and shall not again be eligible till after the lapse of one year. Vacancies among the elected Members of Council and Office-Bearers occurring by completion of term of office, by retirement on rotation, by resignation, by death or otherwise, shall be filled by election at the Annual General Meeting. The election shall be by Ballot, upon a list issued by the Council for that purpose to the Fellows at least fourteen days before the Meeting.

17. The Council may appoint committees or individuals to take charge of particular departments of the Society's business.

18. The Annual General Meeting of the Society shall take place on St Andrew's Day, the 30th of November, or on the following day if the 30th be a Sunday.

19. The Council shall have power to call Extraordinary General Meetings when they see cause.

20. The Ordinary Meetings of the Society shall be held on the second Monday of each month, from December to May inclusive.

21. Every proposal for altering the Laws must be made through the Council; and the Secretaries, on instructions from the Council, shall cause intimation thereof to be made to all the Fellows at least one month before the General Meeting at which it is to be determined on.

FORMS OF BEQUEST.

Form of Special Bequest.

I, A. B., do hereby leave and bequeath to the Society of Antiquaries of Scotland incorporated by Royal Charter, my collection of and I direct that the same shall be delivered to the said Society on the receipt of the Secretary or Treasurer thereof.

General Form of Bequest.

I, A. B., do hereby leave and bequeath to the Society of Antiquaries of Scotland incorporated by Royal Charter, the sum of £ sterling [*to be used for the general purposes of the Society*] [or, *to be used for the special purpose or object, of*], and I direct that the said sum may be paid to the said Society on the receipt of the Treasurer for the time being.

LIST OF THE FELLOWS

OF THE

SOCIETY OF ANTIQUARIES OF SCOTLAND,

NOVEMBER 30, 1932.

PATRON :
HIS MAJESTY THE KING.

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|--|---|
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1927. WALLIS, W. CYRIL, Assistant Keeper, Art and Ethnographical Department, Royal Scottish Museum, 53 Spottiswoode Street, Edinburgh, 10.
1921. WARD, EDWIN, Director of the Royal Scottish Museum, 30 Walker Street, Edinburgh, 3.
1917. WARNER, Rev. GRAHAM NICOLL, M.A., The Manse, Clydebank.
1919. WARR, The Very Rev. CHARLES LAING, M.A., D.D., Minister in St Giles Cathedral, Dean of the Most Ancient and Most Noble Order of the Thistle, and Dean of the Chapel Royal in Scotland, 63 Northumberland Street, Edinburgh, 3.
- 1917.*WARRACK, JOHN, LL.D., 13 Rothesay Terrace, Edinburgh, 3.
1923. WARRACK, MALCOLM, 7 Oxford Terrace, Edinburgh, 4.
1916. WATERSON, DAVID, R.E., Bridgend House, Brechin.
1924. WATERSTON, CHARLES B., 25 Howard Place, Edinburgh, 4.
1904. WATLING, H. STEWARD, Architect, Manor Close, Cornwall Road, Harrogate.
- 1907.*WATSON, CHARLES B. BOOG, F.R.S.E., 24 Garscube Terrace, Murrayfield, Edinburgh, 12.
1924. WATSON, GEORGE MACKIE, Architect, 50 Queen Street, Edinburgh, 2.
1913. WATSON, G. P. H., Architect, Royal Commission on Ancient and Historical Monuments of Scotland, 27 York Place, Edinburgh, 1.
1922. WATSON, HENRY MICHAEL DENNE, C.A., 12 Henderland Road, Murrayfield, Edinburgh, 12.
- 1927.*WATSON, JOHN HILL, of Grangehill, Beith, Ayrshire.
- 1906.*WATSON, JOHN PARKER, W.S., Greystane, Kinellan Road, Murrayfield, Edinburgh, 12.
1930. WATSON, THOMAS WILLIAM, J.P., The Schoolhouse, Gullane.
- 1927.*WATSON, WILLIAM ELDER, O.B.E., J.P., Moray Bank, Elgin.
1912. WATSON, WILLIAM, J., M.A., LL.D., D.Litt.Celt., F.R.S.E., Professor of Celtic Languages, Literature and Antiquities, University of Edinburgh, 17 Merchiston Avenue, Edinburgh, 10.
- 1907.*WATT, JAMES, W.S., F.F.A., Craiglockhart House, Craiglockhart Avenue, Edinburgh, 11.
1908. WATT, Rev. LAUCHLAN MACLEAN, M.A., B.D., D.D., 1 Athole Gardens, Hillhead, Glasgow, W. 2.
1923. WATT, WILLIAM J. C., M.B., Ch.B., 71 High Street, Paisley.
1920. WAUGH, PERCIVAL, 98 Polwarth Terrace, Edinburgh, 11.
1924. WEBSTER, MARTYN C., 5 Newton Terrace, Charing Cross, Glasgow, W.
1879. WEDDERBURN, J. R. M., M.A., W.S., 3 Glencairn Crescent, Edinburgh, 12.

1928. WEIR, Rev. HAROLD GEORGE MULLO, M.A.,
The Manse, Dalry, Kirkcudbrightshire.
1925. WEIR, JAMES MULLO, S.S.C., 21 Mayfield Ter-
race, Edinburgh, 9.
1929. WEIR, J. S., Lecturer, 3 Church Street, Bexhill-
on-Sea, Sussex.
1927. WEIR, WALTER, 18 Cathkin Road, Langside,
Glasgow.
1926. WESTELL, WILLIAM PERCIVAL, F.L.S., M.R.A.I.,
The Museum, Town Square, Letchworth,
Hertfordshire.
- 1884.*WHITE, CECIL, 23 Drummond Place, Edin-
burgh, 3.
1925. WHITE, WILLIAM, Shore Road, Anstruther, Fife.
1903. WHITELAW, ALEXANDER, Gartshore, Kirkintil-
loch.
- 1902.*WHITELAW, CHARLES EDWARD, F.R.I.A.S., 22
Midmar Gardens, Edinburgh, 10.
1928. WHITELAW, Rev. HERBERT A., Moss Street Manse,
Elgin.
1909. WHITTAKER, CHARLES RICHARD, F.R.C.S.,
F.R.S.E., Lynwood, 27 Hatton Place, Edin-
burgh, 9.
1923. WHYTE, WILLIAM, P.O. Box 1831, Johannesburg,
S. Africa.
1921. WILKIE, ALEXANDER, 14 Ravelston Park, Edin-
burgh, 4.
1908. WILKIE, JAMES, B.L., S.S.C., 108 George
Street, Edinburgh, 2.
1897. WILLIAMS, H. MALLAM, J.P., Tilehurst, Southern
Road, Southbourne, Hants.
1928. WILLIAMSON, ROBERT F., 4 Grange Terrace,
Edinburgh, 9.
1928. WILLIS, JAMES E. (no address).
1930. WILSON, ARTHUR, J.P., 6 Saltoun Gardens,
Glasgow, W. 2.
1929. WILSON, GEORGE VICTOR, of H.M. Geological
Survey, 19 Grange Terrace, Edinburgh, 9.
- 1927.*WILSON, ROBERT, 139 Princes Street, Edin-
burgh, 2.
- 1923.*WILSON, Rev. S. GORDON F., M.A., B.Litt.,
A.K.C., F.R.Hist.S., St Nicholas' Rectory,
Canterbury.
1913. WILSON, Rev. THOMAS, B.D., The Manse, Stow,
Midlothian.
1916. WINDUST, Mrs ESTHER, Sidi-Bou-Said, near
Tunis, N. Africa.
1920. WISHART, DAVID, Pittarrow, Abernethy, Perth-
shire.
1929. WOLFENDEN, Ex-Provost WILLIAM, J.P., Duke
of Gordon Hotel, Kingussie, Inverness-
shire.
1922. WOOD, J. R., 51 Clouston Street, Kelvinside
N., Glasgow.
1930. WRIGHT, ALEXANDER, L.R.I.B.A., Highfield,
Balderock Road, Milngavie.
1927. WRIGHT, Rev. WILLIAM, M.A., B.D., Minister of
the Parish of Wardlawhill, 21 Clincarthill,
Rutherglen.
1925. WYNESS, J. FENTON, A.R.I.B.A., A.L.Archts.Scot.,
25 Belmont Street, Aberdeen.
1926. YOUNG, EDWARD DRUMMOND, 27 Castle Terrace,
Edinburgh, 1.
1913. YOUNG, THOMAS E., W.S., Auchterarder.
1924. YOUNGER, HARRY J., 21 Douglas Crescent,
Edinburgh, 12.
1929. YOUNGER, Mrs J. P., Arnsbrae, Cambus, Clack-
mannanshire.
- 1912.*YULE, THOMAS, W.S., 16 East Claremont Street,
Edinburgh, 7,—Vice-President.

SUBSCRIBING LIBRARIES, ETC.

- | | |
|---|--|
| <p>American Philosophical Society.
 Ashmolean Museum, Oxford.
 Baillie's Institution, Glasgow.
 Birmingham Public Libraries—Reference Library.
 Chicago University Library, Chicago, U.S.A.
 Cleveland Public Library, Ohio, U.S.A.
 *Columbia University.
 Department of British and Mediæval Antiquities,
 British Museum.
 Detroit Public Library, Detroit, U.S.A.
 *Faculty of Procurators' Library, Glasgow.
 Falkirk Natural History and Archæological Society.
 Free Public Library, Boston, Massachusetts, U.S.A.
 Harvard College, U.S.A.
 Henry E. Huntington Library and Art Gallery,
 San Marino, California, U.S.A.
 Institute of Accountants and Actuaries in Glasgow.
 John Rylands Library, Manchester.
 National Museum of Wales, Cardiff.</p> | <p>New York Public Library, New York.
 Pennsylvania Historical Society, Philadelphia,
 U.S.A.
 Public Library, Aberdeen.
 Public Library, Dundee.
 Public Library of Victoria, Melbourne, Australia.
 Reform Club, Pall Mall, London, S.W. 1.
 State Historical Society of Wisconsin, Madison,
 Wisconsin, U.S.A.
 *Stornoway Public Library, Island of Lewis.
 University College, Dublin.
 University Library, Leeds.
 University of Michigan, Ann Arbor.
 University of Minnesota, U.S.A.
 University of Pennsylvania, Philadelphia, Pa.,
 U.S.A.
 Victoria University of Manchester.
 Yale University Library, New Haven, Connecticut,
 U.S.A.</p> |
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LIST OF THE CORRESPONDING MEMBERS
OF THE
SOCIETY OF ANTIQUARIES OF SCOTLAND.

NOVEMBER 30, 1932.

- | | |
|---|--|
| 1923. BLACK, GEORGE F., Ph.D., New York Public Library, New York City, U.S.A. | 1915. MATHIESON, JOHN, F.R.S.E., 42 East Claremont Street, Edinburgh. 7. |
| 1927. BREMNER, SIMON, Mid Town, Freswick, Caithness. | 1915. MORRISON, MURDO, Lakefield, Bragar, Lewis. |
| 1928. FORTUNE, JOHN ROBERT, Airhouse, Orton, Berwickshire. | 1924. MUIR, WILLIAM T., Brenda, Evie, Orkney. |
| 1913. FRASER, JOHN, 7 East Hermitage Place, Leith, Edinburgh, 6. | 1911. NICOLSON, JOHN, Nyhster, Auchengill, by Wick, Caithness. |
| 1913. LEVY, Mrs N., Fort Charlotte, Lerwick, Shetland. | 1931. SMITH, SAMUEL, Mumrills, Laurieston, near Falkirk. |
| | 1921. URQUHART, ANDREW, M.A., J.P. (no address). |

LIST OF HONORARY FELLOWS
OF THE
SOCIETY OF ANTIQUARIES OF SCOTLAND,
NOVEMBER 30, 1932.

[According to the Laws, the number is limited to TWENTY-FIVE.]

1897.

- Sir W. M. FLINDERS PETRIE, D.C.L., LL.D., F.B.A., F.R.S., Edwards Professor of Egyptology in University College, London, W.C. 1.
Dr SOPHUS MÜLLER, Secretary of the Royal Society of Northern Antiquaries, and Director of the National Museum, Copenhagen.

1908.

- Sir ARTHUR JOHN EVANS, M.A., D.C.L., Youlbury, near Oxford.
Professor H. DRAGENDORFF, Freiburg i. Baden, Johan von Weirhstrasse 4.

1919.

- 5 LÉON COUTIL, Correspondant du Ministère de l'Instruction Publique, etc., etc., Les Andelys, Eure, France.
RENÉ CAGNAT, Secrétaire Perpétuel de l'Académie des Inscriptions et Belles Lettres, Professeur au Collège de France, Palais de l'Institut (3 rue Mazarine), Paris.

1923.

- M. L'ABBÉ H. BREUIL, D.L.C., Professeur au Collège de France et à l'Institut de Paléontologie Humaine, Paris, 110 rue Demours, Paris.
Professor FRANZ CUMONT, 19 Corso d'Italia, Rome.
G. F. HILL, C.B., M.A., LL.D., F.B.A., Litt.D., F.S.A., Director of the British Museum, London, W.C. 1.

- 10 FRANK GERALD SIMPSON, M.A., 45 Fern Avenue, Jesmond, Newcastle-upon-Tyne.
 Mrs ARTHUR STRONG, C.B.E., Litt.D., LL.D., F.S.A., Life-Fellow of Girton College, Cambridge, and
 Assistant Director of the British School at Rome, 35 Via Balbo, Rome (22).
 A. M. TALLQREN, Professor Universitetet, Helsingfors, Finland.

1926.

- MARCELLIN BOULE, Professor in the Muséum National d'Histoire Naturelle, and Director of the
 Institut de Paléontologie Humaine, 1 rue René Panhard, boulevard Saint-Marcel, Paris 13^e.
 Professor Dr philos A. W. BRØGGER, Bestyrer av Universitetets Oldsaksamling, Tullinløkken, Oslo,
 Norway.
 15 O. M. DALTON, M.A., F.B.A., 12 Sydney Place, Bath.
 Professor Dr ERNST FABRICIUS, Geheimer Rat, Goethestrasse 44, Freiburg im Breisgau, Germany.
 Sir ARTHUR KEITH, M.D., D.Sc., LL.D., F.R.C.S. (Eng.), F.R.S., Conservator of the Museum and
 Hunterian Professor, Royal College of Surgeons of England; Past-President of the Royal
 Anthropological Institute of Great Britain and Ireland, and of the Anatomical Society.
 Dr R. PARIBENI, Director of the Institute of Archæology of Rome, Museo Nazionale Romano, Rome.

1927.

- DON HERMILO ALCALDE DEL RIO, Torrelavega, Santander, Spain.

1931.

- Mrs M. E. CUNNINGTON, 33 Long Street, Devizes, Wiltshire.
 21 Professor Dr ROBERT ZAHN, Director bei den Staatlichen Museen, Honorar-professor an der
 Universität, Am Lustgarten, Berlin, C.2.

LIST OF THE LADY ASSOCIATES
OF THE
SOCIETY OF ANTIQUARIES OF SCOTLAND,
NOVEMBER 30, 1932.

[According to the Laws, the number is limited to TWENTY-FIVE.]

1900.

Miss M. A. MURRAY, Edwards Library, University College, London, W.C. 1.
2 Mrs E. S. ARMITAGE, M.A., Parkhurst, Middlesbrough.

SOCIETIES, INSTITUTIONS, &c., EXCHANGING PUBLICATIONS.

- | | |
|---|---|
| <p>Architectural, Archæological, and Historic Society of Chester and North Wales.</p> <p>Belfast Natural History and Philosophical Society.</p> <p>Berwickshire Naturalists' Club.</p> <p>Bristol and Gloucestershire Archæological Society.</p> <p>British Archæological Association.</p> <p>Buchan Field Club.</p> <p>Buteshire Natural History Society.</p> <p>Cambrian Archæological Association.</p> <p>Cambridge Antiquarian Society.</p> <p>Carmarthenshire Antiquarian Society.</p> <p>Cumberland and Westmorland Antiquarian and Archæological Society.</p> <p>Derbyshire Archæological and Natural History Association.</p> <p>Dumfriesshire Natural History and Antiquarian Society.</p> <p>Edinburgh Architectural Association.</p> <p>Edinburgh Geological Society.</p> <p>Elgin Literary and Scientific Society.</p> <p>Essex Archæological Society.</p> <p>Gaelic Society of Inverness.</p> <p>Glasgow Archæological Society.</p> <p>Hampshire Field Club and Archæological Society.</p> <p>Hawick Archæological Society.</p> <p>Historic Society of Lancashire and Cheshire.</p> <p>Institute of Archæology, Liverpool.</p> <p>Kent Archæological Society.</p> <p>Orkney Antiquarian Society, Kirkwall.</p> <p>Perthshire Society of Natural Science.</p> <p>Royal Anthropological Institute.</p> <p>Royal Archæological Institute of Great Britain and Ireland.</p> <p>Royal Commission on Ancient and Historical Monuments of Scotland.</p> <p>Royal Commission on the Ancient and Historical Monuments and Constructions in Wales and Monmouthshire.</p> | <p>Royal Historical Society.</p> <p>Royal Institute of British Architects, London.</p> <p>Royal Irish Academy.</p> <p>Royal Numismatic Society.</p> <p>Royal Society of Antiquaries of Ireland.</p> <p>Scottish Ecclesiological Society.</p> <p>Shropshire Archæological Society.</p> <p>Society for the Promotion of Roman Studies.</p> <p>Society of Antiquaries of London.</p> <p>Society of Antiquaries of Newcastle-upon-Tyne.</p> <p>Somersetshire Archæological and Natural History Society.</p> <p>Stirling Natural History and Archæological Society.</p> <p>Surrey Archæological Society.</p> <p>Sussex Archæological Society.</p> <p>Third Spalding Club.</p> <p>Thoresby Society.</p> <p>Viking Society for Northern Research.</p> <p>Wiltshire Archæological Society.</p> <p>Yorkshire Archæological Society.</p>
<p>Archæological Survey of India.</p> <p>British School at Rome.</p> <p>Colombo Museum, Ceylon.</p> <p>Provincial Museum, Toronto, Canada.</p> <p>Royal Canadian Institute, Toronto.</p> <p>University Museum, Dunedin, New Zealand.</p>
<p style="text-align: center;">FOREIGN SOCIETIES, UNIVERSITIES,
MUSEUMS, &c.</p> <p>Académie des Inscriptions et Belles Lettres, Paris.</p> <p>Académie des Sciences d'Ukraine, Kieff.</p> <p>Administration des Monuments, Riga, Lettonie.</p> <p>Alterthumsgesellschaft, Königsberg.</p> <p>Anthropologische Gesellschaft, Vienna.</p> <p>Antiquarische Gesellschaft, Zürich.</p> |
|---|---|

- Archaeological Institute of the Imperial University of Kyoto, Japan.
- Archäologisches Institut des Deutschen Reiches Römisch-Germanische Kommission, Frankfurt am Main.
- Associació Catalana d'Antropologia, Etnologia i Prehistòria, Barcelona Universitat, Spain.
- Bosnisch-Herzegovinisches Landes-Museum, Sarajevo.
- Bureau of Ethnology, Washington.
- California University.
- Commissione Archeologica Comunale di Roma.
- Cornell University Library, Ithaca, New York.
- Čal. státní archéologický ústav (Institut archéologique de l'Etat tchécoslovaque) Praha, Republika československá.
- Department of Antiquities in Palestine, Jerusalem.
- Ecole d'Anthropologie de Paris.
- Faculté des Sciences de Lyon.
- Field Museum of Natural History, Chicago.
- Foreningen til Norske Fortidsminde-merkers Bevaring.
- Gesellschaft für Nützliche Forschungen, Trier.
- Göteborg och Bohusläns Fornminnesföreningen.
- Göttingen University.
- Historische und Antiquarische Gesellschaft, Basel.
- Historischer Verein für Niedersachsen.
- Institut Archéologique Bulgare, Sofia.
- Institut de Paléontologie Humaine, Paris.
- Junta Para Ampliación de Estudios—Comisión de Investigaciones Paleontológicas y Prehistóricas, Madrid.
- Junta Superior de Excavaciones y Antigüedades, Madrid.
- Kiel University.
- Kongelige Norske Videnskabers Selskab, Trondhjem.
- Landesmuseum Nassauischer Altertümer zu Wiesbaden.
- Leipzig University.
- Musée Archéologique Erasie Majewski de la Société des Sciences de Varsovie, Poland.
- Musée Guimet, Paris.
- Musée National Suisse à Zurich.
- Museum, Bergen, Norway.
- Museum of Northern Antiquities, Oslo.
- National Bohemian Museum, Prague, Czechoslovakia.
- National Museum, Zagreb, Yugoslavia.
- Nordiska Museet, Stockholm.
- Norsk Folkemuseum, Oslo, Norway.
- Notgemeinschaft der Deutschen Wissenschaft, Berlin.
- Oslo University, Norway.
- Peabody Museum, Cambridge, Mass., U.S.A.
- Prähistorische Kommission der Akademie der Wissenschaften in Wien.
- Reale Accademia Nazionale dei Lincei, Rome.
- Rijks-Museum van Oudheden, Leiden.
- Römisch-Germanisches Central Museum, Mainz, Germany.
- Royal Academy of History and Antiquities, Stockholm.
- Royal Society of Northern Antiquaries, Copenhagen.
- Servicio de Investigación Prehistórica de la Excm. Diputación Provincial de Valencia.
- Smithsonian Institution, Washington, U.S.A.
- Società Romana di Antropologia, Rome.
- Société d'Anthropologie de Paris.
- Société des Antiquaires de l'Ouest.
- Société Archéologique d'Alexandrie.
- Société Archéologique de Constantine, Algeria.
- Société Archéologique du Midi de la France.
- Société Archéologique de Montpellier.
- Société Archéologique de Moravie.
- Société Archéologique de Namur.
- Société des Bollandistes, Brussels.
- Société des Sciences de Semur (*Pro Alesia*).
- Société Finlandaise d'Archéologie, Helsingfors.
- Société d'Histoire et d'Archéologie de Gand.
- Société Nationale des Antiquaires de France.
- Société Préhistorique Française, Paris.
- Société Préhistorique Polonaise.
- Société Royale d'Archéologie de Bruxelles.
- Städtisches Museum für Volkerkunde, Leipzig.
- Stavanger Museum, Stavanger, Norway.
- University Library, Tartu, Estonia.
- Uppsala University.
- Verein für Nassauische Alterthumskunde, Wiesbaden.
- Verein von Alterthumsfreunden im Rheinlande, Bonn.
- Wiener Prähistorische Gesellschaft.
- PERIODICALS.
- L'Anthropologie*, Paris.
- Bulletin archéologique polonais*, Warsaw.
- LIBRARIES, BRITISH.
- Athenæum Club Library, London.
- Bodleian Library, Oxford.

British Museum Library.
 Chetham's Library, Manchester.
 Church of Scotland College Library, The Mound,
 Edinburgh.
 Free Library, Edinburgh.
 Free Library, Liverpool.
 Mitchell Library, Glasgow.
 National Library of Scotland, Edinburgh.
 National Library of Wales, Aberystwyth.
 Ordnance Survey Library, Southampton.
 Public Record Office Library, London.
 Royal Library, Windsor.
 Royal Scottish Museum Library, Edinburgh.
 Scottish National Portrait Gallery Library
 Scottish Record Office, Historical Department.
 Signet Library, Edinburgh.
 Trinity College Library, Dublin.
 University Library, Aberdeen.

University Library, Cambridge.
 University Library, Edinburgh.
 University Library, Glasgow.
 University Library, St Andrews.
 Victoria and Albert Museum Library, London.

LIBRARIES, FOREIGN.

Bayerische Staats-bibliothek, Munich, Bavaria.
 Bibliothèque d'Art et d'Archéologie, Université de
 Paris.
 National Library, Paris.
 National Library, Vienna.
 Newberry Library, Chicago, U.S.A.
 Preussische Staats-bibliothek, Berlin.
 Public Library, Hamburg.
 Royal Library, Copenhagen.
 Royal Library, Stockholm.
 Sächsische Landes-bibliothek, Dresden.

PROCEEDINGS
OF THE
SOCIETY OF ANTIQUARIES OF SCOTLAND

HUNDRED AND FIFTY-SECOND SESSION, 1931-1932

ANNIVERSARY MEETING, 30th November 1931.

CHARLES E. WHITELOW, Vice-President,
in the Chair.

Mr Robert Cross and Mr J. W. M. Loney were appointed Scrutineers of the Ballot for Office-Bearers.

The Ballot having been concluded, the Scrutineers found and declared the List of the Council for the ensuing year to be as follows:—

President.

HIS GRACE THE DUKE OF ATHOLL, K.T., C.B., M.V.O., D.S.O., LL.D.

Vice-Presidents.

CHARLES E. WHITELOW, F.R.I.A.S.

THOMAS YULE, W.S.

Brig.-Gen. Sir ROBERT GILMOUR, Bart., C.B., C.V.O., D.S.O.

2 PROCEEDINGS OF THE SOCIETY, NOVEMBER 30, 1931.

Councillors.

The Hon. HEW HAMIL- TON DALRYMPLE.	} <i>Representing the Board of Trustees.</i>	Professor V. GORDON CHILDE, B.Litt.
JOHN WARRACK.		F. J. GRANT, Lord Lyon King-of-Arms.
JOHN A. INGLIS.	} <i>Representing the Treasury.</i>	STAIR A. GILLON.
Prof. THOMAS H. BRYCE, M.D., F.R.S.		Colonel W. ANSTRUTHER-GRAY.
G. P. H. WATSON.		Sheriff C. H. BROWN, K.C.
The Hon. LORD ST VIGEANS.		JOHN RICHARDSON, W.S.

Secretaries.

DOUGLAS P. MACLAGAN, W.S. | J. HEWAT CRAW.

For Foreign Correspondence.

The Rev. Professor A. H. SAYCE, M.A., LL.D., D.D.		Professor G. BALDWIN BROWN, F.B.A., LL.D.
--	--	--

Treasurer.

J. BOLAM JOHNSON, C.A.

Curators of the Museum.

JAMES CURLE, LL.D., W.S. | JAMES S. RICHARDSON.

Curator of Coins.

Sir GEORGE MACDONALD, K.C.B., F.B.A., LL.D., D.Litt.

Librarian.

ALEXANDER O. CURLE, C.V.O.

A Ballot having been taken, the following were elected Fellows:—

- WILLIAM F. ARBUCKLE, M.A. (Edin. & Oxon.), H.M.I.S., 1 Murrayfield Gardens, Edinburgh, W.
 GILBERT ARCHER, St Ola, Park Road, Leith.
 CHARLES C. CALDER, The Chestnuts, Darnaway, Forres.
 NEIL CAMERON, Mayfield, Thornhill Park, Sunderland.
 MARRYAT R. DOBIE, Keeper of Manuscripts, National Library of Scotland, 23 Cargil Terrace, Edinburgh.
 JOHN GUNN, M.A., D.Sc., F.R.S.G.S., 62 Blacket Place, Edinburgh.
 WILLIAM HENDERSON, M.A., c/o Mrs Crichton, Glencraig, Fife.

ANNIVERSARY MEETING.

3

- ALISTER MACBETH MACKAY, "Strathnaver," 328 Upper Richmond Road, East Sheen, Surrey.
 Mrs C. G. MACKAY, c/o National Provincial Bank, 11 Lombard Street, London, E.C.3.
 ROBERT A. M'LELLAN, M.I.Loco.E., Invergarry, Church Stretton, Shropshire.
 ANTHONY JOHN CAPPER MAGIAN, M.D., B.S., F.R.I.P.H., F.R.G.S., Rosslyn, Willow Bank, Fallowfield, Manchester.
 HENRY T. MORLEY, F.R.Hist.S., B.Sc. (Archæology), J.P., Leicester House, King's Road, Reading.
 Mrs GRAY MUIR, 17 Grosvenor Crescent, Edinburgh.
 JOHN WHITEHILL PARSONS, Broomers House, Pulborough, Sussex.
 JOHN RENILSON, Queen Mary's House, Jedburgh.

The Secretary read the list of Members deceased since the last Annual Meeting:—

Honorary Fellows.

	Elected.
Monsieur ADRIEN DE MORTILLET, 154 Rue de Tolbiac, Paris (13 ^e)	1931
Dr BERNHARD SALIN, State Antiquary-in-Chief, Stockholm	1923

Fellows.

	Elected.
JOHN SCOTT ALLEN, F.R.S.A., M.R.S.T., Chapel Place, Lismore, Co. Waterford	1925
THOMAS BAYNE, Radernie, Peat Inn, Cupar, Fife	1891
DONALD CAMPBELL, M.A., Redcott, Alton Road, Paisley	1927
Rev. L. WINTHER CAWS, 198 Grange Loan, Edinburgh	1926
JOHN FINLAY, 7 Belgrave Crescent, Edinburgh	1911
D. HAY FLEMING, LL.D., 4 Chamberlain Road, Edinburgh	1884
PATRICK HUNTER GILLIES, M.D., Monzie, Connel Ferry, Argyll	1896
Rev. DONALD C. CAMPBELL GOLLAN, B.D., MacIntosh Memorial Manse, Fort William	1926
JETHRO JONES, Ivy House, Tettenhall Wood, near Wolverhampton, Staffordshire	1927
ROBERT LAMOND, M.A., LL.B., 8 Marchmont Terrace, Kelvinside, Glasgow	1923
THOMAS GREENSHIELDS LEADBETTER, of Spital Tower, Denholm, Roxburghshire	1882
DAVID LENNOX, M.D., F.R.A.S., 6 Alexandra Place, St Andrews	1907
GEORGE JAMES LIND, 121 Rua do Golgotha, Oporto, Portugal	1907
Rev. WILLIAM M'CONACHIE, D.D., The Old Manse, Lauder	1908
RANALD MACDONALD, C.M.G., O.B.E., J.P., F.R.G.S., Rudha-nan-Gall, Lochmaddy, North Uist	1927
Rev. JOHN BERNARD M'GOVERN, F.Ph.S., Redgarth, Clothorn Road, Didsbury, Manchester	1923

4 PROCEEDINGS OF THE SOCIETY, NOVEMBER 30, 1931.

	Elected.
Rev. MALCOLM MACLENNAN, D.D., Stobomills House, Gorebridge, Midlothian	1925
JAMES MATHER, Ravelston Bank, Blackhall	1926
NEIL MUNRO, LL.D., Cromalt, Helensburgh	1922
VICTOR A. NOEL PATON, W.S., 31 Melville Street, Edinburgh	1891
Sir JAMES BALFOUR PAUL, K.C.V.O., LL.D., 30 Heriot Row, Edinburgh	1879
Sir DAVID PAULIN, F.F.A., 6 Forres Street, Edinburgh	1902
HENRY PRAIN, J.P., Helen Bank, Longforgan, by Dundee	1918
THOMAS REID, M.A., Arnold House, Lanark	1920
THOMAS ROSS, LL.D., Architect, 14 Saxe-Coburg Place, Edinburgh	1891
Colonel Sir ROBERT KING STEWART, K.B.E., Murdostoun Castle, Newmains, Lanarkshire	1885
ROBERT TAYLOR, Duntrune, Milngavie	1924
W. S. TURNBULL, Aikenshaw, Roseneath	1901

The Meeting resolved to record their sense of the loss the Society had sustained in the death of these members.

The Secretary read the following Report by the Council on the affairs of the Society:—

The Council herewith submit to the Fellows of the Society their Report for the year ending 30th November 1931.

<i>Fellowship.</i> —The total number of Fellows on the roll at 30th November 1930 was	1061
At 30th November 1931 the number was	1075
being an increase of	14

During the year the names of 65 new Fellows were added to the roll, while 28 died, 11 resigned, and 12 allowed their membership to lapse. Although the result is a net increase, the number of new applications shows a considerable falling off as compared with previous years. Under present conditions it is inevitable that there should be occasional resignations. The Council trust that Fellows will do what they can to lay before their friends the advantages of joining the Society.

Among the names of Fellows who have died in the course of the year the Council desire to make special reference to Monsieur Adrien de Mortillet and Dr Bernhard Salin, who were Honorary Fellows, also to Sir James Balfour Paul, Dr Thomas Ross, and Dr David Hay Fleming.

Elected an Honorary Fellow as recently as 12th January last, Professor Adrien de Mortillet, one of the most eminent of French archæologists, did not long live to enjoy the honour, as he died on

the 20th July. As a young man he collaborated with his father, who was Director of the National Museum of Antiquities of France at St Germain-en-Laye, in the classification of the collections there. The result of this work appeared in their joint-publication of *Le Musée Préhistorique*, all the illustrations having been drawn by the son, who was entirely responsible for the later editions which were demanded. He was one of the joint-founders of the journal, *L'Homme Préhistorique*, and continued as joint-editor for a considerable period. In addition, his contributions to archaeological and anthropological publications were extraordinarily numerous. For thirty-two years he was a Professor in the School of Anthropology in Paris, filling the Chair of Comparative Ethnography, and afterwards that of Ethnographic Technology. In 1929 he was appointed to the Chair of Prehistoric Anthropology. De Mortillet's researches were not confined to France. Other countries were visited for the study of archaeology and ethnology, his most important journey, perhaps, being one through a great part of South America in 1903. He was one of the founders of the Société Préhistorique Française, and an Honorary Member of many other French and foreign societies. It was pleasant to receive from him an assurance that none of these honours gave him more gratification than did our own Honorary Fellowship.

The death of Bernhard Salin is a heavy loss to that branch of archaeological study which concerns the art of the "Migration" period, as represented specially in what were the north-west provinces of the Roman empire.

Salin was a great scholar, moving with easy grace through a field of work dotted with archaeological pitfalls, and overlaid with a multiplicity of objects, generically the same, but presenting specific differences of many kinds that were only to be discerned by a man of genius with an eye who saw everything, but saw it with the discriminating glance that realised at once the relation of parts to a whole.

Bernhard Salin's one great book, happily accessible in a German version, the *Altgermanische Thierornamentik*, was published in 1904, and was devoted in the first place to a critical examination of small artifacts in metal, for the most part objects of personal wear such as fibulae and buckles. They were products, as was said above, of the "Migration" period, but their provenance and early history are obscure and many antiquaries believe in an ultimate Oriental origin. Salin did not go into these last questions with any minuteness, but dealt like a master with the mass of material that in the centuries from the fourth to the seventh had accumulated first in the ward-rooms and boudoirs and ultimately in the graves of the people who came in to occupy

these old north-western Roman provinces. These multitudinous objects, after having analysed their designs one by one, Salin set himself to classify, and in this way there came about that famous partition of the whole mass into three classes characterised as Style 1, Style 2, and Style 3. This is the one weak point in the book, for, as has been pointed out by Sune Lindqvist and others, there were hardly differences enough among the pieces to justify their separation into three distinct classes. Hence it is that Haakon Shetelig uses, instead of Styles 1, 2, and 3, the formula Early or Late Vendel period, as giving a better division of the matter that has to be dealt with. This question of classification is after all a secondary matter compared with the scientific work on the artifacts, one by one, in which Salin achieved such memorable results. He would most probably have reinforced or revised his conclusions on this matter had there not descended upon him, like a blight, that terrible disease that sapped his creative energy and has now carried him away from the large company that looked to him as their master and are now left to mourn his untimely death.

But there was far more in Bernhard Salin than the professional archæologist. He was a man of a beautiful nature, one whom to know was to love. A ready adviser and helper, his name on the books of the Society will do these honour, and will bring to many the remembrance of a singularly winning personality.

Salin's genial nature and intense Swedish patriotism came out strongly if one saw him in "Skansen," the great National Park so happily situated on a hilly promontory at the end of the sea-front. He appeared there as the presiding genius of the place, and might be seen on a warm summer's day taking measures for the relief of the Lapland sledge-dogs, who, each with his kennel and exercise ground, would have been quite happy had the sun deigned to withdraw his beams. With their thick coats and semi-arctic habits they were in great misery. Salin knew the names of all of them, and talked to them in friendly fashion while he made what arrangements he could for their comfort. It was a trifling incident, but it showed the man.

The scientific visitor to Stockholm soon came to realise the extraordinary range of knowledge possessed by the Royal Antiquary, who had to resign for reasons of health this prominent post in the learned world of the North. He was, however, always ready to receive a stranger visitant properly introduced, and to discuss with him some knotty point of the antiquarian lore in which he kept to the end his interest. There are indications that his reputation is a growing one among scholars working in his own or in kindred fields of study.

By the death of Sir James Balfour Paul, K.C.V.O., LL.D., Edinburgh

has lost one of its distinguished citizens, and Scottish history and archæology has been deprived of one of its brightest ornaments. After passing through the High School and the University of Edinburgh, he was called to the Scottish Bar in 1870. He early turned to the historical and literary side of his profession, and was editor of the *Journal of Jurisprudence* (1875-87), historian of the Royal Company of Archers (1875), author of a *Hand-book to the Parliament House* (1884), an *Ordinary of Scottish Arms* (1893), and a *Memoir and Remains of J. M. Gray* (1895). He was elected a Fellow of our Society in 1879, served for several periods as a Member of Council and as a Vice-President, and in 1898 delivered the Rhind Lectures, published two years later under the title of *Heraldry in relation to Scottish History and Art*. In 1890 he had been appointed Lord Lyon King-of-Arms in Scotland, in succession to Dr George Burnett, and he held that office till 1926 with dignity and honour, delivering many notable judgments on cases that came before his Court. His publications, in addition to his Rhind Lectures, were largely editorial: *Registrum Magni Sigilli* (1882-3), *The Accounts of the Lord Treasurer of Scotland* (1900-16), and *The Scots Peerage*, 9 vols. (1904-14), with many contributions to periodical literature. He held office in several other learned societies, including the Scottish History Society. He was one of the founders of the Antiquaries Club. He had a close connection with the Kirk, and it is not surprising that he should have been one of the founders of the Scottish Ecclesiological Society, which was established in 1903 to combine the existing societies in Aberdeen and Glasgow with the ecclesiologists of Edinburgh. He was a very regular attender of the meetings of the Edinburgh centre, a familiar figure at its excursions, and a valued contributor to its discussions. He had the distinction of being the first layman to be elected President, an office which he held in 1929-30, and during which he delivered an address entitled "A Border Presbytery in the Eighteenth Century"—a most interesting contribution to the life and letters of that period in Scotland, and including much material which he had collected in preparing the *Diary of George Ridpath*, which was published by the Scottish History Society in 1922.

Sir James was made a Knight Bachelor in 1900, C.V.O. in 1911, and K.C.V.O. in 1926, receiving also the degree of LL.D. from his own University in 1908. He was always a well-informed speaker and writer, a man of many interests, with a fund of personal reminiscences and a rich vein of humour. He will be missed by many friends within and without the Society.

By the death of Dr Thomas Ross, LL.D., H.R.S.A., which took place on 4th December 1930, the Society has lost one of its senior and most

distinguished members. The name of Dr Ross, along with that of his colleague, the late Dr David MacGibbon, will be remembered for all time in connection with their monumental writings on Ancient Scottish Architecture: the five volumes of *The Castellated and Domestic Architecture of Scotland*, published from 1887 to 1892, running to 2883 pages, and the three volumes of *The Ecclesiastical Architecture of Scotland*, published in 1896 to 1897, amounting to 1677 pages. These two monumental works, between them, contain upwards of 3325 drawings. When it is understood that the whole of this great survey, covering the entire field of Scotland, and dealing with all the remains of its architecture between the twelfth and eighteenth centuries, was the unaided work of these two writers, and when it is reflected that they lived before the days of motor transport, it will be realised that the eight volumes form a remarkable monument of enthusiasm, devotion, and persistence. By the labours of MacGibbon and Ross, knowledge of the evolution of Scottish architecture was placed, once for all, on a satisfactory basis. Subsequent research has modified their conclusions in not a few respects, but their volumes provided the foundations upon which all later writers have built.

Dr Ross had been a Fellow of the Society since 1891, and had served as a Vice-President for one period and was a Member of Council for four periods. He contributed a number of papers on architectural subjects to our *Proceedings*, and his services were also utilised by the Society in surveying various excavated prehistoric and Roman sites. He was Rhind Lecturer in 1899 and again in 1902, his subjects being the Ancient Ecclesiastical and Domestic Architecture of Scotland.

Despite the intensity of study that he devoted to the subject in which he became famous, Dr Ross was in no sense a man of narrow or of limited interests. He had a wide knowledge of English History, Literature, and Poetry, and, in particular, his acquaintance with the works of Sir Walter Scott and with old Scottish ballads was intimate and deep. Personally he was a man of the finest and the most lovable character, who endeared himself to all who knew him. A striking tribute to the affection which he aroused among his fellow-members of the Society was paid by Sir George Macdonald at the meeting on 8th December 1930.

David Hay Fleming, LL.D., was elected a Fellow in 1884. He was born in St Andrews in 1849, and throughout his long life retained a strong and abiding affection for his native city. It was natural, therefore, that his first efforts in the field of historical and antiquarian research should be to elucidate its history and antiquities, a work which he performed with meticulous care and exactitude. The results

are embodied in three brochures issued between 1881 and 1887. It had long been one of his ambitions to have a museum in the Cathedral grounds to house the numerous relics found within its precincts, or taken from other ecclesiastical buildings in the city, and his wish was gratified in 1908 when H.M. Office of Works acceded to his request. The museum is particularly rich in Celtic stonework, the preservation of which was largely due to his efforts. He had been engaged for some years in the preparation of a catalogue of its contents, and, though handicapped latterly by a severe illness, it was a source of gratification to himself and to all archaeologists that it was completed and published this year. His most important and enduring work was, however, done in the field of historical research, and the high standard there maintained was all the more remarkable as he had not had the advantage of an intensive academic training and discipline. He was the greatest authority of the Scotland of the sixteenth and seventeenth centuries, and his critical powers and mastery of the facts are seen at their best in two of his books, *Mary, Queen of Scots*, and *Critical Reviews relating Chiefly to Scotland*. His constructive work as a historian is distinguished more by a comprehensive accumulation of details than by a grasp of broad lines of policy, but it is a truism to say that these books are among those which a student of the period can least afford to neglect. He was the acknowledged authority on the Reformation and the Covenanters, and, although his sympathies were too obviously on one side to admit of his writing an impartial history of those periods, he maintained his point of view vigorously, and no one has done more to elucidate the facts. A keen controversialist and a severe critic, he was nevertheless most generous in his appreciation of good and scholarly work, especially in the case of younger men, to whom he was ever ready to give encouragement and assistance. Those who had the privilege of his private friendship will retain many happy memories of his kindness and hospitality and of an old-world charm of manner. No account of him would be complete without a reference to his activities as a book collector. He was the most learned of Scottish bibliographers and made many important contributions to the study. His unique collection of books, pamphlets, and manuscripts relating to Scottish History, the most valuable private collection in Scotland, has been bequeathed to St Andrews to be used as a Reference Library. He contributed many papers to the *Proceedings*, mostly relating to the discoveries made during the excavations at St Andrews, but the last and most important was an exhaustive and learned account of the famous Supplication and Complaint against Laud's Liturgy. When he came to reside in Edinburgh, he was for several years a regular

attender at our meetings and served for a period on the Council. He was an original member of the Scottish History Society, in which he took an active interest. After the death of his friend Dr Law he discharged the onerous duties of Secretary for a few years, and he edited with his usual scholarly thoroughness three of their publications

Proceedings.—An advance copy of the *Proceedings* lies upon the table. Fourteen papers deal with prehistorical and six with historical subjects.

The Museum.—The number of relics added to the Museum during the year amounted to 1418 by donation and 251 by purchase, figures which are considerably above the average.

Two important collections of prehistoric objects, one formed by the late Mr John Smith, Dalry, and the other by the late Dr William M'Lean, Dingwall, have been presented. The first, which included the relics found during excavations in a cave, a crannog, and hill-forts in Ayrshire, as well as a general collection of flint and stone implements and other relics from the Stevenston Sands, Ayrshire, was handed over by H.M. Geological Survey for Scotland, with the consent of Mr Smith's executrices; the second, which consisted for the most part of flint and stone implements gathered chiefly in the Black Isle, Ross-shire, was gifted by Mrs M'Lean. These donations were particularly welcome, as there were very few flint implements from Ayrshire and Ross-shire in the Museum. Mr Walter G. Grant, who last year presented the neolithic pottery from the chambered cairn at Taiverso Tuick, Orkney, has now sent the broken stone hammer found in the cairn to be housed along with them.

The additions to the Bronze Age collections of pottery are more numerous than usual. They include two beakers from Kraiknish, Skye, discovered by Mr W. Lindsay Scott, F.S.A.Scot., and presented by Sir Reginald Macleod of Macleod; one from Drumshelt, Fife, presented by Mr Robert Smith; another, with fragments of cinerary urns and part of an Iron Age jet armlet, found in a cairn at Drumelzier, presented by Mr W. J. W. Nicol of Netherurd; a food-vessel from North Gyle, Corstorphine, presented by Mr Alexander Y. Allison; another example from Rumgally, Cupar, presented by Mr C. A. Rodger, and one from Cockenzie, presented by the Rev. T. Osborne, F.S.A.Scot.; two cinerary urns from Lintlaw, presented by the Earl of Home, F.S.A.Scot., and one found near Gladhouse Reservoir, presented by Mr James C. Kay, F.S.A.Scot. Fragments of a food-vessel and part of a jet necklace from a cist at Knockenny, Glamis, were presented by Mr James Bruce. When complete, the necklace had been of a type very seldom met with in Scotland.

Four vessels of steatite have been acquired: two found in a grave at Little Asta, Tingwall, Shetland, were presented by Mr Andrew Hall, while one from Clestrain, Stronsay, Orkney, and another from Bookan, Orkney, were purchased. The last two are of special interest, as the Clestrain example is one of the smallest and best made so far recorded, and the other is of a Viking type. Another relic belonging to Viking times, a stone with twig-runes incised upon it, found near the Loch of Stenness, Orkney, was presented by Mr William Leask.

Among objects belonging to the historic period mention may be made of a small harp belonging to, and played by, Lady John Scott, presented by Mrs Inverarity, and a much corroded thin plate of bronze with incised armed figures belonging to the twelfth or thirteenth century, found at Leuchars Castle, presented by Dr J. B. Mears. The Spalding Banner, carried during the risings of '15 and '45, was bequeathed by Miss Flora Spalding.

The chief purchases were a bronze penannular brooch of unique form, and dating from about the fifth century A.D., found at Pinhoulland, Walls, Shetland, and a large collection of objects belonging to the Bronze Age, the Iron Age, and Romano-British times, found in a cave at Covesea, Morayshire. Two Bronze Age penannular gold armlets, found near St Abbs, were obtained through the King's and Lord Treasurer's Remembrancer.

It will give much satisfaction to the Fellows to know that a particularly valuable and interesting group of objects, consisting of "The Clanranald Jacobite and Family Relics," has been deposited in the Museum by Mr Angus R. Macdonald, the 23rd Chief, and that Clanranald has at the same time intimated his intention of bequeathing these relics to the Society to be preserved in the National Museum for all time, on the understanding that none of them shall ever be allowed to pass out of the Museum on loan.

Excavations.—Further excavations have been carried out on the Poltalloch estate by Sir Ian Malcolm of Poltalloch, K.C.M.G., F.S.A.Scot., and the Society. Under the supervision of Mr Craw, the horned cairn of Auchoish was examined. The construction has been planned, but no relics were found.

The work of excavation at the Broch of Aikerness, in the parish of Evie, Orkney, begun last year, was continued this summer with the aid of funds supplied by Mr T. B. Macaulay, LL.D., F.S.A.Scot. Mr Craw was again in charge. The course of the wall enclosing an area round the broch was traced, and some fifty small chambers formed of large upright slabs were cleared out. From the methods of construction and

the nature of the relics found, these chambers appear to belong to the same period as the secondary occupation of the broch.

The Library.—The additions to the Library amounted to 114 by donation and 28 by purchase. Besides these, a considerable number of publications of learned societies, etc., have been received by way of exchange and by subscription. Over 600 volumes have been bound under the Grant from H.M. Treasury towards the binding of books.

The new extension to the Library has now been completed and one large bookcase provided. This has relieved congestion to a considerable extent, but not until the complete installation of bookcases takes place will it be possible to make the re-arrangements desired in the Library.

The Rhind Lectureship.—The Rhind Lectures for 1931 will be delivered in December by Mr George Gordon Coulton, Litt.D., D.Litt., LL.D., F.B.A., the subject being "Monastic Life and its Influence on the Civilisation of Scotland." The Lectureship for 1932 has been accepted by Professor C. A. Nordman, Helsingfors, who will deal with "The Megalithic Culture of Northern Europe."

The Gunning Fellowship.—The Gunning Fellowship for 1931 was awarded to Mr A. J. H. Edwards, Assistant Keeper of the Museum, for the purpose of visiting museums in Ireland.

The Chalmers-Jervise Prize.—The district selected for the Chalmers-Jervise Prize Essay for 1931 was Inverness-shire. Two essays were received and the prize was awarded to Mr J. D. Lyford-Pike, Rosetta, Kirkbrae, Liberton, for his essay on "The Cup-marked Stones of North Uist and Benbecula."

ATHOLL,
President.

NATIONAL MUSEUM OF ANTIQUITIES OF SCOTLAND,
QUEEN STREET, EDINBURGH.

The Report was adopted on the motion of Mr Alex. O. Curle, seconded by Dr George Mackay.

Mr J. Bolam Johnson, Treasurer, read the annual statement of the Society Funds, which was ordered to be printed and circulated among the members. On the motion of Dr James MacLehose, a hearty vote of thanks was accorded to Mr Johnson for his gratuitous services.

MONDAY, 14th December 1931.

CHARLES E. WHITELOW, Vice-President,
in the Chair.

A Ballot having been taken, the following were elected Fellows:—

DAVID J. BEATTIE, Sculptor, Kenilworth, Talbot Road, Carlisle.
Rev. ALAN CANT, B.D., B.Sc., Manse of Creich, Cupar-Fife.
ALEXANDER GRAHAME BUCHANAN, M.B., Ch.B., 8 Queensborough Gardens,
Hyndland, Glasgow.
Major WILLIAM HOWIE DOIG, C.E., Gordon Street, Elgin.
WILLIAM AENEAS GRANT, Alpha Cottage, Union Street, Kirkintilloch.
HUGH DUFF MACWILLIAM, 65 Lissenden Mansions, London, N.W. 5.
JOHN REID, J.P., 27 Lintrathen Gardens, Dundee.
Miss MARTHA C. SCOTT MONCRIEFF, Rocklands, Elie, Fife.

The following Donations to the Museum were intimated, and thanks voted to the Donors:—

- (1) By CHARLES A. ROGER, Rungally, through J. TENNANT GORDON, O.B.E., F.S.A.Scot.

Food-vessel of brown Clay, and an end Scraper of grey Flint, found with the remains of an unburnt human skeleton in a short cist at Rungally, Kemback, Fife; and a knife of yellow Flint, found in an adjoining short cist. (See subsequent communication by J. Tennant Gordon.)

- (2) By H. NORMAN CRANSTON, 3 Rutland Square, Edinburgh.

Silver Medal of Orange Lodge No. 1657, of circular shape, and with a free ring for suspension. On the obverse is an equestrian statue of William III. in Roman garb, with the date 1690 on the pedestal, the inscription THE GLORIOUS MEMORY. NO SURRENDER. round the margin: and G. BROWN D. in small letters under the pedestal. On the reverse, within a wreath of shamrocks, is INSTALL^d 17th SEPT. 1834/L. 1657/JOHN CRANSTON/ADMISSION/5 JUNE 1848.

- (3) By J. M. CORRIE, F.S.A.Scot., and ALEXANDER O. CURLE, C.V.O., F.S.A.Scot.

Two hollow Beads of thin-blown black Glass, the perforation being ragged and projecting at each side, measuring $\frac{1\frac{1}{2}}{32}$ inch in diameter. Found by the donors in the rampart of the fort on the East Lomond hill, Fife.

(4) By J. M. CORRIE, F.S.A.Scot.

Piece of Iron Slag and a Mould of Sandstone, with a matrix for casting a short bar on one side. The mould measures $4\frac{1}{8}$ inches by $3\frac{1}{8}$ inches by $2\frac{1}{2}$ inches, and the matrix 2 inches by $\frac{3}{4}$ inch by $\frac{1}{4}$ inch. Found by the donor on the site of an old bloomery in the fort on the East Lomond hill.

Stone Polisher in the form of a flat waterworn pebble, abraded at both ends and showing signs of polishing on the flat faces, measuring $2\frac{1}{2}$ inches by $1\frac{3}{8}$ inch by $\frac{1}{2}$ inch, found a short distance north of the grave containing steatite urns, near Asta Quarry, Tingwall, Shetland.

Whetstone of grey sandstone, measuring $3\frac{3}{4}$ inches in length, much worn down in the centre, from Sandwick Bay, Unst, Shetland.

Cylindrical spout of a red Clay Vessel; two feet of two Vessels of red Clay which have probably had three feet, the inside covered with brown glaze; foot of an Iron Pot of similar shape; six fragments of red Clay Vessels, variously glazed, and a Stone Disc, dressed round the periphery, $2\frac{1}{8}$ inches in diameter, from Breckan Sands, North Yell, Shetland.

(5) By JAMES C. KAY, F.S.A.Scot.

Cinerary Urn of dirty brown Clay, with a heavy overhanging rim, below which it expands to a pronounced shoulder before contracting to a narrow base. The urn is unornamented, unsymmetrical in shape, and part of the rim is missing. Found inverted over cremated human remains, in Toxside Sandpit, near Gladhouse Reservoir, Midlothian.

Two small sections of a stout Bronze wire, measuring $\frac{15}{16}$ inch and $\frac{5}{16}$ inch in length, probably remains of a Pin or Awl, found among the bones in the urn.

Small fragment of a Cinerary Urn of red Clay, decorated with cord impressions, found beside the larger urn. (See subsequent communication by J. Graham Callander, F.S.A. Scot.)



Fig. 1. Beaker found at Dunshelt, Fife.

(6) By ROBERT SMITH, Dunshelt Tile Works.

Beaker of fine reddish Clay (fig. 1). It is quite contorted, but has been restored. It measures $6\frac{1}{4}$ inches in height, and is decorated

by six zones of rouletted or stamped designs, one at the rim, one at the base, and four between, all separated by plain bands. Found in a sandpit immediately west of the prehistoric fort at Dunshelt, Auchtermuchty, Fife.

(7) By JAMES BRUCE, Knockenny.

Fragments of a Food-vessel of dirty grey ware, and part of a Necklace of Shale or Jet, consisting of fifteen discoidal beads and part of two others, and three cylindrical beads, found with human remains in a short cist at Knockenny, Glamis, Angus. (See *Proceedings*, vol. lxxv. p. 419.)

(8) By W. D. MASON, 6 High Street, Selkirk.

Twenty-four Tardenoisian Pigmy Implements of Flint, Chert, and other stones, including triangles and pointed tools, mostly with battered backs, found by the donor on The Rink farm, Selkirk. (See *Proceedings*, vol. lxxv. p. 416, fig. 2.)

(9) By Mr ROBERT HOGG, J.P., Schoolhouse, Broughton, through JAMES GRIEVE, F.S.A.Scot.

Bronze Spear-head with loops on the socket, measuring $4\frac{1}{2}$ inches in total length, the blade being $1\frac{1}{2}$ inch in length, and $\frac{1}{16}$ inch in breadth, and the socket $\frac{3}{4}$ inch in diameter at the mouth, found near the school at Broughton, Peeblesshire.

(10) By A. HENDERSON BISHOP, F.S.A.Scot.

Yarn-winder of Wood, measuring 27 inches in length, and the cross-pieces 14 inches and 15 inches in length. The ends of the stem are decorated with chip carving, having the initials M.N. at one end and the date 1658 at the other.

Distaff of Wood, measuring $29\frac{1}{2}$ inches in length. The top end is of square section, the lower end round, and the stem of baluster form. Both from the Shotts district, Lanarkshire.

(11) By Dr J. B. MEARS of Leuchars.

Fragments of a thin Plate of Bronze, showing a man in armour attacking a monster (fig. 2, p. 16). Behind the armed figure is the word IRA and at other places are letters N, A, and VI. Placed radially round the border there seems to have been five figures similar to the one in the centre. The plate is now reduced to a diameter of 10 inches. Found by the donor on ploughed ground, close to the moat at the base of the Castle Mound at Leuchars, Fife.

(12) By JAMES S. RICHARDSON, F.S.A.Scot.

Ivory Snuff-mull of oval baluster shape, with a cork stopper, to which is attached part of a bone snuff-spoon. Two Gingerbread Moulds of Wood, one measuring $4\frac{3}{8}$ inches by $3\frac{7}{16}$ inches, bearing a thistle, and

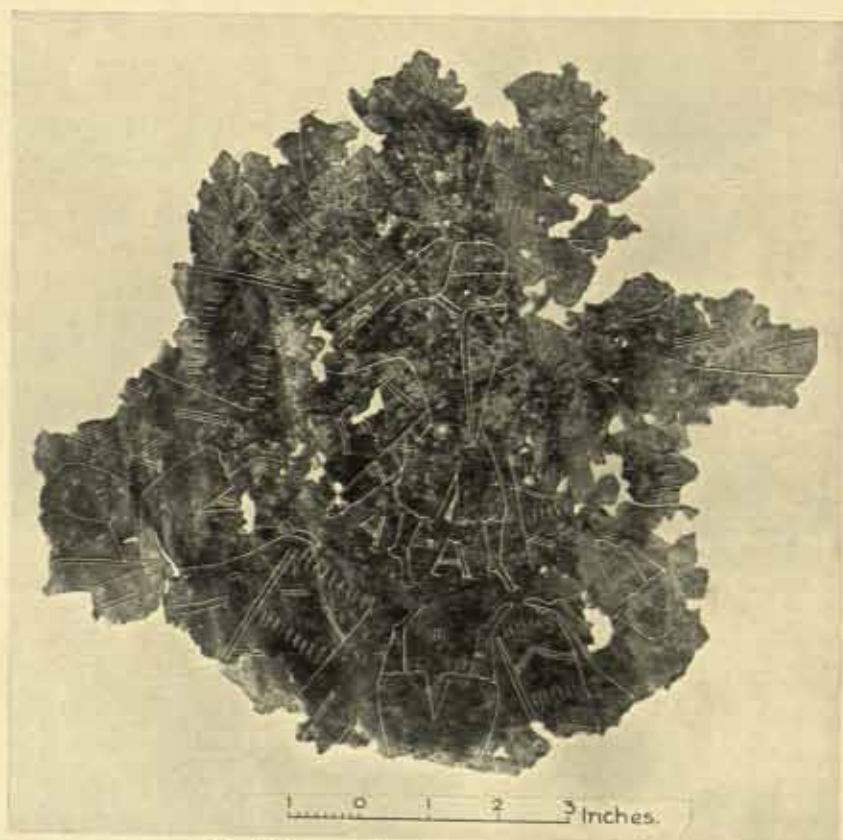


Fig. 2. Bronze Plate from Leuchars, Fife.

the others, measuring $9\frac{5}{16}$ inches by $6\frac{3}{4}$ inches, bearing four stamps showing a debased Royal coat of arms. All from Montrose.

Flint Saw, measuring 3 inches long and $1\frac{5}{16}$ inch broad, and five discoid Beads and half of another, of black Stone, found by the donor in a neolithic grave, Sepulture de Feuilles, Dept. de l'Hérault, France.

(13) By W. PERCIVAL WESTELL, F.S.A.Scot., F.L.S., M.R.A.I.

Bronze Medal, commemorating Admiral Vernon's capture of Portobello, 1739.

(14) By Rev. R. S. G. ANDERSON, B.D., F.S.A.Scot.
Three Communion Tokens of Inch Free Church.

(15) By Mrs ERSKINE BEVERIDGE.
Rounded mass of Iron, measuring 7 inches by 6 inches by $3\frac{3}{4}$ inches,
from the earth-houses at Foshigarry, North Uist.

(16) By ANDREW HALL, Scalloway, Shetland, through J. M. CORRIE,
F.S.A.Scot.
Two Steatite Urns, found in a stone cist, with human remains,
near Asta, Tingwall, Shetland. (See subsequent communication by
J. M. Corrie.)

(17) By WILLIAM LEASK, Madrás Cottage, Stenness, Orkney.
Oblong block of stone, measuring $12\frac{1}{2}$ inches long, 6 inches broad, and



Fig. 3. Stone bearing Twig Runes from Loch of Stenness, Orkney.

7 inches thick, with two Twig Runes carved on the face (fig. 3), found
near south shore of the Loch of Stenness, Orkney.

(18) By Rev. THOMAS OSBORNE, F.S.A.Scot.
Food-vessel of reddish Clay, found in a small cist with incinerated
human remains at Winton Park, Cockenzie, East Lothian. (See sub-
sequent communication by J. Graham Callander.)

(19) By WALTER G. GRANT of Trumland, F.S.A.Scot.
Half of a Stone Hammer of grey granite, broken across the perfora-
tion and split lengthwise. It is of oval section, and from the rounded
face, which measures $1\frac{1}{8}$ inch in height and 2 inches in breadth, it

contracts regularly till opposite the hole, where it is $1\frac{1}{8}$ inch by $1\frac{9}{16}$ inch in cross diameters. The perforation is carefully drilled and contracts slightly at the centre, where it is $\frac{3}{8}$ inch in diameter. It was discovered in the entrance passage of the chambered cairn at Taiverso Tuick, Rousay, Orkney. (See *Proceedings*, vol. lxx. pp. 87 and 94, fig. 17.)

Two Communion Tokens, Kirkwall Free Church, 1843; Glenkens Free Church, 1848.

(20) By JAMES S. DONALD, F.S.A.Scot.

Five Communion Tokens, Dunfermline, Brook 334, and 1821; Kilsyth, 1811; Colliston Free Church, 1843; and Gask Chapel.

(21) By Mrs POTTS, 25 Salem Street, Sunderland.

Two baby's Caps of Lace and Linen.

(22) By Mrs ELIZABETH B. MITCHELL, Langlees, Biggar.

Scraper of green Chert, measuring $1\frac{9}{16}$ inch by $1\frac{5}{8}$ inch, found in the fort on Arbory Hill, Crawford, Lanarkshire.

(23) By Dr J. N. MARSHALL, F.S.A.Scot.

Eight Knives and Scrapers of Obsidian, found near Gilgil, Kenya, East Africa.

(24) By WILLIAM DOUGALL, Lassodie Mill.

Barbed Arrow-head of yellow Flint, slightly imperfect, measuring $1\frac{1}{4}$ inch by $1\frac{5}{8}$ inch, found near Lassodie Mill, Dunfermline, Fife.

(25) By THOMAS HUNTER, Clivocast, Uyeasound, Shetland, per J. M. CORRIE, F.S.A.Scot.

Irregularly shaped Perforated piece of Steatite, measuring $4\frac{1}{8}$ inches by $3\frac{1}{8}$ inches by $1\frac{1}{2}$ inch, with a Latin cross cut on one side.

Part of a Stone Mould for casting a Buckle, showing remains of a perforation at one end.

Half of a Mould of Steatite for casting an object of indeterminate use, measuring $3\frac{1}{8}$ inches by $1\frac{9}{16}$ inch by $\frac{7}{8}$ inch, with a perforation at each end.

Part of a Stone Mould for casting a Bar-like object.

Piece of a stout Bronze Plate, of pointed oval shape, measuring $2\frac{1}{4}$ inches by $1\frac{7}{8}$ inch by $\frac{5}{16}$ inch, with a stud in the centre.

Oval Pebble, measuring 4 inches by $2\frac{9}{16}$ inches by $2\frac{3}{16}$ inches, one side being worn concave, as if by hammering, and the other showing a pointed projection.

Hammer-stone, measuring $3\frac{1}{4}$ inches by $1\frac{1}{8}$ inch by 1 inch.

Flat discoidal Bead of yellow Vitreous Paste, measuring $\frac{3}{8}$ inch in diameter and $\frac{3}{32}$ inch in thickness.

Bone Button, square, with cut corners; it has a V-shaped perforation below, the hollowed top exposing the perforation from above, measuring $\frac{9}{16}$ inch square.

Bone Button, the edge scalloped and pierced.

All found on Fetlar, Shetland.

(26) By J. SMITH, Foratwatt, Walls, Shetland, per J. M. CORRIE, F.S.A.Scot.

Wooden object, possibly a Distaff, found in a moss at Pinhoulland Walls, Shetland.

(27) By Mr SANDISON, Cullivoe, Yell, Shetland.

Steatite Lamp, measuring $5\frac{1}{4}$ inches by $2\frac{5}{8}$ inches, with a narrow oval hollow on the top and a hole at each end for suspension, found on an old chapel site, Cullivoe, Yell, Shetland.

(28) By CHARLES S. T. CALDER, F.S.A.Scot.

More than half of a circular Bronze openwork Mount, measuring $1\frac{1}{2}$ inch in diameter, showing a winged animal, wanting the head and fore leg. Found by the donor, in July 1931, on the surface of an old inhabited sandy site near Quendale (east of Quendale Chapel site and between it and the Sumburgh road), parish of Dunrossness, Shetland.

(29) By Monsieur VAYSON DE PRADENNE, per JAMES S. RICHARDSON, F.S.A.Scot.

Stone Maul for quarrying flint, measuring $5\frac{7}{16}$ inches in length, with a groove round the middle for attachment to the handle, from Murs, near Avignon, France.

(30) By THE MUNICIPAL MUSEUM, Belfast (in exchange for an Irish socketed bronze knife).

Remains of a Bronze Knife of triangular shape. A length of $3\frac{1}{4}$ inches of the blade remains, broken in two, and there are three rivets. Found between two large stones, with some ashes, 7 feet below the surface, in the gravel pit at Dunragit Station, Wigtownshire.

(31) By ALEXANDER KEILLER of Morven, F.S.A.Scot.

Flanged Bronze Axe, measuring $6\frac{3}{8}$ inches in length, $2\frac{1}{8}$ inches across the cutting edge, and $1\frac{1}{4}$ inch across the flanges. The cutting edge

terminates in pronounced horns, and the flanges are placed behind the centre of the axe. An incipient stop-ridge is placed at the front of the wings and shows a convexity towards the butt; in front of the stop-ridge is a slight oval moulding with a central rib. The axe, for the greater part, is covered with a thick brown patina. Found at Auchterhouse, near Dundee, Angus, in 1887.

(32) By A. BASHALL DAWSON, F.S.A.Scot.

Oval leaf-shaped object of Brass, with a perforated projection at the top, for attachment. It is flat on one face and convex on the other. On the flat face is inscribed CITY OF EDINBURGH. It measures $2\frac{7}{16}$ inches by $2\frac{1}{16}$ inches by $\frac{9}{16}$ inch.

(33) By JOHN FRASER, Corresponding Member.

Two Communion Tokens, Birsay and Harray, Brook, 112; Unst, 1850.

(34) By JAMES FYFE, 39 Lady Helen Street, Kirkcaldy.

Communion Token of Linkton Associate Congregation, 1800.

(35) By Mrs MANSON, Hosen, through JOHN FRASER, Corresponding Member.

Half of a Stone Mould for casting a pear-shaped object of unknown use, measuring $2\frac{1}{2}$ inches by $2\frac{3}{8}$ inches by $\frac{3}{4}$ inch, found in a field at Hosen, Dounby, Orkney.

(36) By The Right Hon. LORD STRATHCONA AND MOUNT ROYAL, F.S.A.Scot.



Fig. 4. Stone Bead from Oronsay. (†.)

Bead of mottled purple and grey mudstone (fig. 4), measuring $1\frac{3}{8}$ inch by $\frac{7}{16}$ inch.

Three Flint Arrow-heads, two barbed and one leaf-shaped, measuring 1 inch by $\frac{11}{16}$ inch, $\frac{5}{8}$ inch by $\frac{11}{16}$ inch, and $\frac{11}{16}$ inch by $\frac{5}{16}$ inch.

Three side Scrapers of Flint, measuring $1\frac{3}{4}$ inch, $1\frac{5}{8}$ inch, and $1\frac{3}{16}$ inch in length. The flints, with the exception of one of grey colour, have a thick white patina. Found on Parc Croc Rioch, Oronsay.

(37) By JAMES RONALDSON, 33 Gibson Terrace, Edinburgh.

Brass Key, found by the donor, 4 feet below the surface, when digging a hole for a telegraph pole, between Lasswade and Polton, Midlothian.

(38) By T. M. HALLIDAY, F.S.A.Scot., who has supplied the notes about the relics (fig. 5).

Cast Lead Name-plate, bearing the inscription, BY JOHN SCOTT, PLUMBER, EDINR, 1757, the letters being $2\frac{1}{2}$ inches and $2\frac{1}{2}$ inches in height. The inscription occupies a space $30\frac{1}{2}$ inches long and $8\frac{1}{2}$ inches deep. The plate was taken from the roof of the north-west tower of George Heriot's Hospital in Edinburgh. This John Scott appears to have done considerable work, as his name has been found on many



Fig. 5. Scottish Rain-water Heads and other Objects of Lead.

lead roofs throughout Scotland. When lead was cast in bygone days, it was the custom for the plumber to have his name and the year of casting moulded on the sheet.

Cast Lead Name-plate with name and date—1816 JOHN SCOTT, PLUMBER, EDINR. It appears to have been cast by a descendant of the former John Scott, and was taken from the roof of a house which originally stood on a site in Princes Street, Edinburgh, now occupied by the Waverley Market. The inscription is surrounded by an oval beaded border, measuring $18\frac{1}{2}$ inches by $13\frac{1}{2}$ inches, the letters being $2\frac{1}{2}$ inches and $1\frac{1}{2}$ inch in height.

Cast Lead Name-plate with the name and date—MARSHALL & SON, PLUMBERS, EDINR, 1827, which was taken from the roof of the

Parliament Hall in Edinburgh Castle. It would appear that the firm was one of the last plumbers in Edinburgh to cast lead for their own use. Numerous plates have been found on old Edinburgh roofs bearing the name, and dates up to 1832. Milled sheet lead came into general use about 1840. There is an oval beaded border round the name and date, measuring 19 inches by 13½ inches, and the letters are 1½ inch in height.

Rain-water Head of Lead, measuring 29 inches in height, the oblong mouth being 22 inches by 9½ inches. On the front is a stag's head, erased, with the date 1729 and the initials T.L. below. The donor is unable to say from where this was taken, but the plumber into whose hands it came believed it had originally been on one of the historical houses in the Canongate of Edinburgh.

Rain-water Head of Lead, taken from an old house in Ayrshire when it was reconstructed about forty years ago. The head is 22½ inches in height, and has a semi-elliptical mouth, measuring 12½ inches by 8 inches. It is set in a calyx, and on the front is a sheaf of wheat with a dove above it. The little dots which appear in the photograph, just above the sheaf, are where the ears of wheat originally stood; along the top is the motto D'EN HAUT. These are the crest and motto of a Whitefoord family.

Rain-water Head, bell-shaped, with semi-elliptical mouth, measuring 12½ inches by 5½ inches, and 17½ inches in height, from Touch House in Stirlingshire.

Small piece of 1¼-inch bore Lead Pipe, measuring $\frac{9}{16}$ inch in length and 2½ inches in external diameter, considered to be the first used in Scotland since Roman times. This is said to have been laid by Dutchmen in the year 1538 at Linlithgow Palace for King James V. It was cast in Holland and jointed with solder. As far as the writer knows, there are only two other pieces of this pipe now in existence.

Two pieces of 2-inch bore Lead Pipe, measuring 17½ inches and 10 inches in length, and 2½ inches in external diameter, which are parts of a pipe found in the ground beneath the terrace on the south front of George Heriot's School, Edinburgh. It had been vertically cast in short lengths and jointed together. It is difficult to say what its age is, but to the west of Heriot's School, where the Examination Hall now stands, near the Flodden Wall, there was situated the original Edinburgh Water Trust Yard. Here there was a large tank which received the first water-supply by gravitation from Comiston Springs, about three miles distant. This supply was brought to the city by a 3-inch lead pipe laid in the year 1680. The oldest drawing to be seen of the water tank is dated 1824, and there is no trace of the 2-inch pipe in that drawing. It can, however,

be safely assumed that it had something to do with the Comiston water-supply. The plumber who laid this pipe was a good craftsman. It was straight, laid in a bed of sand, and the joints made horizontally and perfectly equal all round. They were also ribbed. The ribs on the joints were termed overcasting. The joint was first made with a wipe cloth and then a dull red-hot iron was gently run along it. This method of overcasting brought the tin in the metal to the surface and prevented the joint becoming porous. The writer, during his apprenticeship, over fifty years ago, remembers two very old plumbers who overcast joints in this way.

Piece of $1\frac{1}{2}$ -inch bore suction Lead Pipe, measuring $3\frac{1}{8}$ inches in length and $1\frac{1}{4}$ inch in external diameter, taken from an old cast-iron pump with water-wheel, driven by burn water at a house near Gorebridge, Midlothian. This pipe was made from cast lead-sheet with soldered seam, the soldered wiping being $\frac{3}{4}$ inch broad. This was a common method of forming pipes about one hundred and fifty years ago, and similarly formed pipes have often been found in old wells.

Old Copper Soldering-bolt, with iron shank, which was found at Newstead Roman Fort, Melrose. It has a copper head set into a square wrought-iron box, which is $1\frac{1}{4}$ inch square by $1\frac{3}{8}$ inch deep, the iron being welded round the copper. The total length is $11\frac{1}{2}$ inches, the shank measuring $9\frac{1}{2}$ inches long.

Three Hand-made Wrought-iron Nails which had been used for fixing sheet lead on the roof of St John's Church, Perth. They are several centuries old, and measure $4\frac{1}{2}$ inches, $2\frac{1}{2}$ inches, and $2\frac{9}{16}$ inches in length.

(39) By WILLIAM MITCHELL, Grind, Orkney, through W. KIRKNESS, F.S.A.Scot.

Priming Powder-flask, rudely cut out of a piece of wood, of oval cylindrical shape, and with the interior burnt out. Its total length is $4\frac{1}{4}$ inches, and cross diameters at centre $\frac{1}{8}$ inch by $\frac{7}{8}$ inch. On each side of the case are lugs, pierced vertically to receive a string or thong for suspension and to guide the cap, which has similar lugs. It is contorted and slightly imperfect. Found 2 feet down in peat, at Grind, Tankerness, Orkney.

(40) Bequeathed by Rev. JOHN M'PHERSON CUNNYNGHAME, formerly a Canon of St Ninian's Cathedral, Perth.

Gold Finger-ring (fig. 6), the shoulders chased with a floral design and the hoop encircled with a raised moulding; the openwork bezel of lozenge shape and consisting of S-shaped scrolls, is set with a rose diamond surrounded



Fig. 6. Finger-ring set with Diamonds. (1.)

by four smaller diamonds. The ring is said to have been given by Prince Charlie to Beatrice Jenkison, daughter of the minister of Athelstaneford, East Lothian, when she, along with her brother and sister, met the Prince at his camp at Duddingston.

The following purchases for the Museum were intimated:—

Silver-gilt Finger-ring, the hoop consisting of two twisted wires, and the bezel in form of a crowned heart, found on Tents Muir, Fife.

Penannular Bronze Brooch, measuring $2\frac{3}{8}$ inches in diameter. The ring has broadened terminals of conventional zoomorphic form. The pin, which is broken into two parts, has a barrel-shaped hinge encircled with three raised mouldings. Found in a peat bank, west of Pinhoulland, Walls, Shetland. (See subsequent communication by J. M. Corrie.)

Large Wooden Potato Bowl, measuring $13\frac{3}{8}$ inches in diameter and $5\frac{1}{2}$ inches in height, from Peebles.

Baton of Edinburgh High Constables, of Ebony, with a silver capsule at each end, measuring $5\frac{1}{4}$ inches in length and $\frac{3}{8}$ inch in diameter. On one end is the coat of arms of Edinburgh, and E H C No. 107, and on the other the Royal Coat of Arms and INSTITUTED 1698.

Two Muntins of Oak, decorated with carved thistle and oak designs, measuring 15 inches by $3\frac{3}{8}$ inches, from the old Church of Montrose.

Small Steatite Urn, measuring from $3\frac{3}{4}$ inches to $3\frac{7}{8}$ inches in cross diameters at the mouth and $3\frac{1}{4}$ inches in height, found in a small stone cist at Clestrain, Stronsay, Orkney. (See *Proceedings*, vol. lxv. p. 102, fig. 24.)

Steatite Vessel of Viking type, measuring 12 inches in external

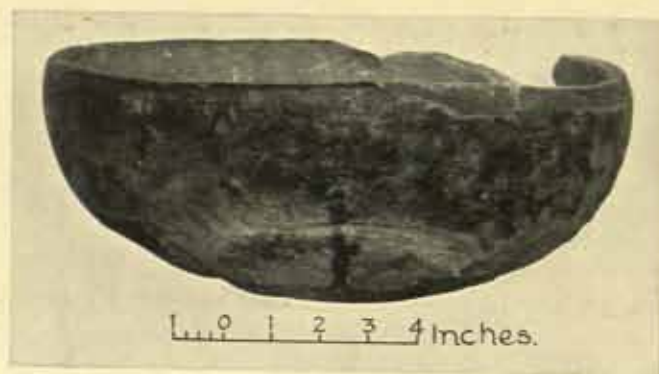


Fig. 7. Steatite Vessel with a patch on the bottom, from Bookan, Orkney.

diameter at the mouth and $4\frac{1}{4}$ inches in height, the wall being $\frac{1}{2}$ inch thick at the lip (fig. 7). It is fractured in places and restored. A hole

broken in the under side had been mended with a patch of steatite held in position by two crossed iron clasps, remains of which can still be seen. In the centre of the base is a small perforation. Found at Bookan, Orkney.

Sieve, formed of a Calf's skin bound round a wooden hoop, the holes having been burned with a wire, measuring $16\frac{1}{2}$ inches to 17 inches in diameter and 2 inches in depth.

Ship's Horn, made of an ox-horn with copper mountings at both ends, measuring $18\frac{1}{2}$ inches in length, and having I. S. FORATWATT and the date 1771 burned on it. From Foratwatt, Walls, Shetland.

Rude Stone Axe, roughly blocked out and ground only at the edge, measuring $3\frac{1}{4}$ inches by $2\frac{3}{8}$ inches by $1\frac{5}{16}$ inch. Sub-oval Stone with longitudinal hollow ground on top side, measuring $5\frac{1}{4}$ inches by $3\frac{5}{16}$ inches by 2 inches. Broken Stone Object, measuring $2\frac{5}{8}$ inches by $1\frac{3}{4}$ inch by $1\frac{1}{8}$ inch, with a circular cavity $1\frac{1}{8}$ inch in diameter and $\frac{1}{4}$ inch deep on the top, possibly a mould. Twelve Scrapers and two side Scrapers of black, grey, yellow, and red Flint. Pointed Implement of grey Flint, and three worked Flints. Three Nodules of Hematite, burnished in parts, the third being wedge shaped, measuring $1\frac{3}{4}$ inch by $1\frac{1}{2}$ inch by $1\frac{1}{8}$ inch, $1\frac{9}{16}$ inch by $1\frac{5}{16}$ inch by $\frac{1}{16}$ inch, and $1\frac{5}{16}$ inch by $1\frac{1}{8}$ inch by $\frac{1}{4}$ inch.

All found on Bookan, Sandwick, Orkney.

Flat Bronze Axe, measuring $5\frac{1}{8}$ inches in length, $2\frac{1}{8}$ inches across the cutting edge, and $\frac{7}{16}$ inch in greatest thickness, found 2 feet under the surface during quarrying operations at Wolfhill, near Perth.

Ale Cog made of wooden staves and hoops of withies, with two vertical pierced projecting handles, one incomplete, from Harray, Orkney.

Stone Axe, measuring $5\frac{1}{4}$ inches by $2\frac{9}{16}$ inches by $1\frac{1}{16}$ inch, with edges ground flat and then pitted, from Halkerston, Gorebridge, Midlothian.

Knife of brownish yellow Flint, which has first been carefully flaked and then ground all over the surface, except along one edge (fig. 8). It measures 3 inches by 1 inch by $\frac{7}{32}$ inch. Found on Over Howden, Channelkirk, Berwickshire.



Fig. 8. Ground Flint Knife from Over Howden, Berwickshire. (l.)

There were acquired through the King's and Lord Treasurer's Remembrancer—

Two Gold Penannular Armlets with expanding ends (fig. 9), the ring of both measuring $2\frac{1}{8}$ inches by $2\frac{1}{8}$ inches and $2\frac{1}{8}$ inches by $2\frac{1}{8}$ inches in external diameters, and weighing 3 oz. 2 dwt. 20 gr., and 14 dwt. 20 gr. respectively. Found at the foot of a cliff under the Kirk Hill, St Abbs, Berwickshire, on 3rd May 1931.

Both armlets, which belong to the Bronze Age, are flattened on the

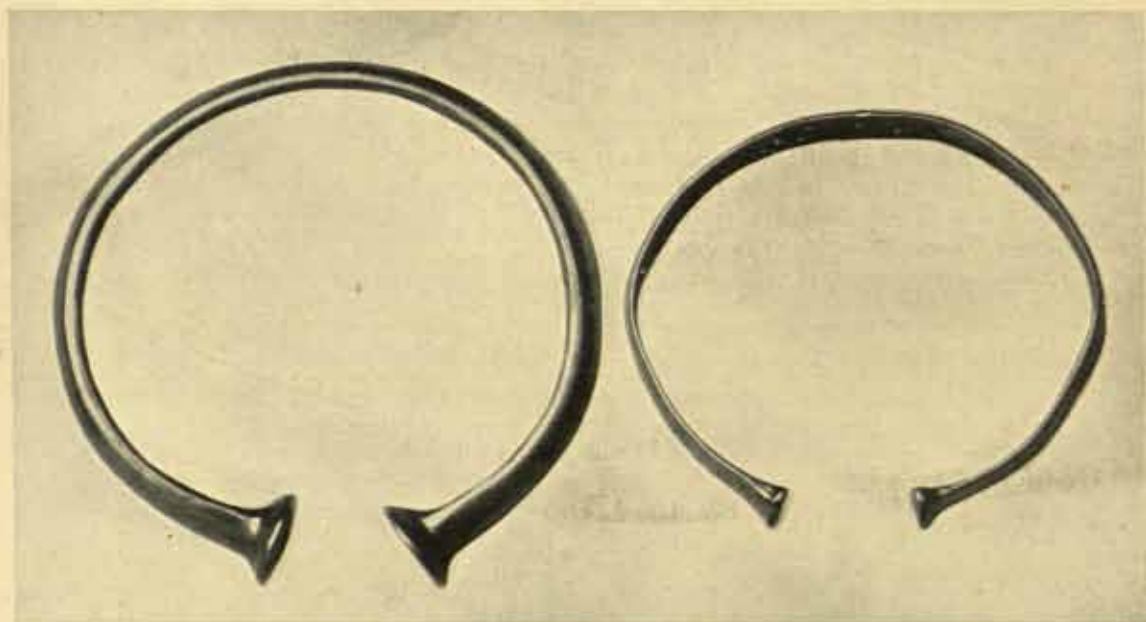


Fig. 9. Penannular Gold Armlets found near the Kirk Hill, St. Abbs. (1.)

inside of the ring, the larger being D-shaped in section, and the smaller of very thin segmental section. Of the eighteen gold armlets in the National Museum, only one, from Ormidale, Arran, shows a similar flattening. In Ireland, where gold penannular armlets have been found in much larger numbers, this feature is very seldom met with.

These armlets were found on the estate of Lord Amulree, who, but for their having been handed over direct to the authorities by the finder, would have desired to present them himself to the National Museum.

The following Donations to the Library were intimated, and thanks voted to the Donors:—

(1) By HIS MAJESTY'S GOVERNMENT.

Calendar of the Liberate Rolls, Henry III. Vol. ii., A.D. 1240-1245. London, 1930.

Curia Regis Rolls of the Reigns of Richard I. and John. Vol. v., 1207-1209. 8-10 John. London, 1931.

Calendar of the Fine Rolls, Henry IV. Vol. xii., A.D. 1390-1405. London, 1931.

Calendar of State Papers and Manuscripts relating to English Affairs, existing in the Archives and Collections of Venice, and in other Libraries of Northern Italy. Vol. xxxi., 1657-1659, and vol. xxxii., 1659-1661. London, 1931.

Calendar of Treasury Books, 1689-1692. Vol. ix., parts i.-v. London, 1931.

Close Rolls of the Reign of Henry III., A.D. 1254-1256; and Henry IV., vol. iii., A.D. 1405-1409. London, 1931.

Calendar of State Papers. Foreign. Elizabeth. Vol. xxi., part iv. January-June, 1588. London, 1931.

(2) By JOHN FRASER, Corresponding Member.

Stirling, Stirling Castle, Abbey Craig, and the Wallace Monument, Bridge of Allan, its Environs and District, a Guide Book for Tourists in Central Scotland. By Rev. Charles Rogers, LL.D., F.S.A.Scot. Stirling, 1861.

(3) By G. A. GARDNER, C.A., F.S.A.Scot., the Author.

Comechingon Pottery. U.S.A., 1931.

The Rock-Paintings of La Quebrada. Berlin, 1930.

(4) By Dr J. B. MEARS, Leuchars Castle, Fife, the Author.

Historical Notes on Leuchars. Cupar, 1925.

(5) By ROBERT MURDOCH LAWBRANCE, F.S.A.Scot.

John Burness: A Forgotten Genius. Banff, 1931. By the Donor.

Epitaphs: Graveyard Humour and Eulogy. Compiled by W. H. Beable. London, 1925.

Morison's Tourist's Guide to the City and County of Perth. Perth, 1869.

University of Aberdeen, Quatercentenary Celebrations. September 1906. Handbook to City and University. Aberdeen, 1906.

Burns's School Reading-book. Some Sidelights thereon. Aberdeen, 1931. By the Donor.

(6) By the Misses Ross, 14 Saxe-Coburg Place.

Memorabilia of the City of Perth. Perth, 1806.

Memorials of the Old College of Glasgow. Glasgow, 1871.

- (7) By THE COMMITTEE AND CURATOR, Russell-Cotes Art Gallery and Museum, Bournemouth.

Souvenir of the Japanese Collection. Illustrated. Compiled by Richard Quick, F.S.A.Scot., M.J.S., Curator.

- (8) By RICHARD QUICK, F.S.A.Scot.

Bulletin of the Russell-Cotes Art Gallery and Museum, Bournemouth. Vol. x., Nos. 2 and 3.

Ninth Annual Report for year ending 31st March 1931.

- (9) By THE LIBRARIAN, University of Aberdeen.

Scottish Gaelic Studies. Vol. iii., part ii. April 1931.

- (10) By D. HAY FLEMING, LL.D., F.S.A.Scot., the Author.

St Andrews Cathedral Museum. Edinburgh, 1931.

- (11) By JAMES MACLEHOSE, M.A., LL.D., F.S.A.Scot., the Author.

The Glasgow University Press, 1638-1931, with some Notes on Scottish Printing in the last three hundred years. Glasgow, 1931.

- (12) By THE SECRETARY, the Manx Museum.

The Journal of the Manx Museum. Vol. ii., No. 27, June 1931; and No. 28, September 1931.

The Manx Museum and Ancient Monuments Trustees. Twenty-sixth Annual Report. Douglas, 1931.

- (13) By T. SHEPPARD, M.Sc., F.S.A.Scot., the Author.

Hull Museum Publications, Nos. 75, 167-173.

- (14) By Rev. JOHN BEVERIDGE, M.B.E., B.D., F.S.A.Scot.

Heimskringla the Olaf Sagas and Heimskringla the Norse King Sagas. By Snorre Sturlason. Translated by Samuel Laing. London, n.d., and London, 1930.

- (15) By THE EDINBURGH CORPORATION.

The City of Edinburgh. Preliminary Suggestions prepared for Consideration by the Representative Committee in regard to the Development and Re-planning of the Central Area of the City in relation to Public Buildings. By F. C. Mears, F.R.I.B.A., F.R.S.E., Member Town-planning Inst. March 1931.

(16) By Rev. C. V. A. MACEachern, M.A., F.S.A.Scot., the Compiler.
North Kirk of St Nicholas, Aberdeen. All in a Hundred Years.
Centenary Souvenir, 1831-1931.

(17) By JOHN MATHIESON, F.R.S.E., F.R.S.G.S., Corresponding
Member, the Author.

A French Map of Prince Charlie's Campaign. (Reprinted from *The
Scottish Geographical Magazine*. Vol. xlvii. May 1931.)

(18) By J. GRAHAM CALLANDER, F.S.A.Scot.

Kulturströmungen in Europa zur Steinzeit. von G. Rosenberg.
Kopenhagen, 1931.

Hood's Pictorial Edinburgh. By Harold Hood, F.R.P.S. Middles-
brough and London, 1931.

(19) By THE DIRECTOR, City of Leicester Museum and Art Gallery.
Twenty-seventh Report to the City Council, 1930-1931.
Bulletin, Quarterly, No. 29, July 1931; and No. 30, October 1931.

(20) By THE SOCIETY FOR THE PROTECTION OF ANCIENT BUILDINGS.
Fifty-fourth Annual Report of the Committee. May 1931.

(21) By THE PUDUKKOTTAI DARBAR.

Chronological List of Inscriptions of The Pudukkottai State, arranged
according to Dynasties. Pudukkottai, 1929.

Inscriptions (Texts) of The Pudukkottai State, arranged according to
Dynasties. Pudukkottai, 1929.

(22) By W. DOUGLAS SIMPSON, D.Litt., F.S.A.Scot., the Author.

David de Necker's Stammbuch of 1579. Aberdeen, 1931. (Reprinted
from *The Aberdeen University Library Bulletin*, No. 43. June 1931.)

(23) By W. L. BULLOWS, the Author.

Prehistoric Cooking Site. (Reprinted from *The Transactions of the
Birmingham Archaeological Society*. Vol. lii., part ii., 1927.)

(24) By Rev. J. KING HEWISON, D.D., F.S.A.Scot.

Biographical Sketch of the Rev. Dr King Hewison in "Some Dumfries
and Galloway Men," 1922. By James Reid, Editor of *The Dumfries and
Galloway Standard*.

- (25) By A. D. LACAILLE, F.S.A.Scot.
 East Kilbride: Official Guide. London, n.d.
 A Guide to Crianlarich. By Mrs Place. York, 1910.
 Cluain Maccu Nois. By R. A. Macalister, M.A. Dublin, 1910.
- (26) By GEORGE MACKAY, M.D., F.R.C.S.E., F.S.A.Scot., the Author.
 A Scots Brigade Flag for Amsterdam in 1930. Stirling, 1931.
- (27) By W. PERCIVAL WESTELL, F.L.S., F.S.A.Scot., the Author.
 Romano-British Objects from "Foxholes," near Hitchin. n.p., n.d.
- (28) By Professor V. GORDON CHILDE, B.Litt., F.S.A.Scot., the Author.
 Skara Brae: A Pietish Village in Orkney. London, 1931. By the Donor.
 Les Tertres funéraires préhistoriques dans la Forêt de Haguenau.
 I. Les Tumulus de l'Age du Bronze. F. A. Schaeffer. Haguenau, 1926.
- (29) By J. STORER CLOUSTON, F.S.A.Scot., the Author.
 Early Norse Castles. (A Lecture read before the Aberdeen Natural History and Antiquarian Society, 19th March 1931.)
- (30) By JAMES S. RICHARDSON, F.S.A.Scot., the Author.
 Hailes Castle, East Lothian: Official Guide. n.p. 1931.
 Huntingtower: Official Guide. Edinburgh, 1931.
- (31) By J. W. GREGORY, F.R.S., LL.D., D.Sc., F.S.A.Scot., the Author.
 The Story of the Road, from the beginning down to A.D. 1931. London, 1931.
- (32) By W. FORBES GRAY, F.R.S.E., F.S.A.Scot., the Author.
 Five Score: A Group of Famous Centenarians. London, 1931.
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- (34) By Sir GEORGE MACDONALD, K.B.E., F.B.A., M.A., LL.D., D.Litt., F.S.A.Scot., the Author.
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Commission signed by GEORGE III., appointing WILLIAM ARNOTT Captain in the Second or Queen's Regiment of Dragoon Guards, dated 27th October 1760.
Commission signed by GEORGE III. in favour of SIR ROBERT ARNOTT, BART., appointing him Major in the Twenty-sixth Regiment of Foot, dated 29th November 1760.

The following purchases for the Library were intimated:—

Acta Archaeologica. Vol. ii., Fasc. 1 and Fasc. 2. Copenhagen, 1931.

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English Romanesque Architecture before the Conquest. By A. W. Clapham, F.S.A. Oxford, 1930.

Old and Curious Playing Cards: Their History and Types from many Countries and Periods. By H. T. Morley, B.Sc.(Arch.), F.R.Hist.S., F.S.P. London, 1931.

Index of Potters' Stamps on Terra Sigillata "Samian Ware." By Felix Oswald, D.Sc., B.A., F.S.A., F.G.S. Notts, 1931.

The Scottish Nation: or the Surnames, Families, Literature, Honours, and Biographical History of the People of Scotland. By William Anderson. 3 vols. Edinburgh and London, 1863.

Dictionnaire d'Archéologie Chrétienne et de Liturgie. Tome Dixième. Première Partie. Lyon-Manosque. Paris, 1931.

The Secret of Flodden. By W. Mackay Mackenzie, M.A., D.Litt. Edinburgh, 1931.

A Dictionary of the Older Scottish Tongue from the Twelfth Century to the end of the Seventeenth. By Sir William A. Craigie, LL.D., D.Litt. Part i. A—Assemble. Oxford, 1931.

The following Communications were read:—

I.

EARTH-HOUSES AT GARRY IOCHDRACH AND BAC MHIC CONNAIN, IN NORTH UIST. BY THE LATE ERSKINE BEVERIDGE, LL.D., F.S.A.SCOT. WITH NOTES ON THE STRUCTURES AND THE RELICS FOUND THEREIN, BY J. GRAHAM CALLANDER, F.S.A.SCOT., DIRECTOR OF THE NATIONAL MUSEUM OF ANTIQUITIES OF SCOTLAND.

Last Session in the report on the excavations carried out at the earth-houses at Foshigarry and on the fort, Dun Thomaidh, in North Uist, it was intimated that Mr Beveridge had also excavated other two earth-houses, one at Garry Iochdrach, on the south-western shore of Vallay Strand, and the other at Bac Mhic Connain, on the Island of Vallay, both in North Uist.¹ At the time of his death Mr Beveridge had written a preliminary account of his excavations of Garry Iochdrach, but not of those at Bac Mhic Connain. The diary describing most of his operations on the *latter* site, and his rough working plan, however, were handed to me, and from them I have compiled the following report on it. Evidently some of his notes have gone amissing, as precise descriptions and measurements of certain of the buildings cannot be found.

EARTH-HOUSE AT GARRY IOCHDRACH, VALLAY STRAND.

BY THE LATE ERSKINE BEVERIDGE, LL.D.

Garry Iochdrach, a small promontory on Airidh Mhic Ruaridh, on the south-western shore of Vallay Strand in North Uist, is situated two and a half miles south-east from Foshigarry, forming the north side of a shallow tidal bay at Ceann nan Clachan. Towards the eastern extremity of this point was discovered in August 1912, and excavated during the summers of 1912 and 1913, an earth-house which bears much general resemblance to the three large underground structures at

¹ *Proc. Soc. Ant. Scot.*, vol. lxxv. p. 290.

Foshigarry, as also to another at Machair Leathann recorded in the writer's volume on North Uist.¹ It is further noteworthy that the arrangement of radial walls in all five of these undoubtedly subterranean dwellings is practically identical with that disclosed in the neighbouring partially above-ground erections at Cnoc a' Comhdhalach (three hundred yards to the south-west) and Eilean Maleit (five hundred yards to the south-east), both of which have been classed as apparently duns or walled forts.

Attention was first drawn to this site²—in the total absence of any aid from local tradition—by two large flat stones, 3 feet apart, protruding towards each other through the grassy surface to the height of about 1 foot. Upon excavation these revealed themselves as roof-slabs displaced with an upward tilt, surmounting a deep layer of ashes. Within 2 or 3 yards to the south and west we soon found at least five other similar covering slabs, the largest of which measured 4 feet 8 inches by 1 foot 11 inches by 3 inches, all evidently occupying nearly their original positions, at somewhat less than 4 feet above the floor-level.

The main structure showed an interior diameter of 25½ feet enclosed by a well-built circumferential wall, and containing a series of seven radial piers or divisional walls spaced at fairly regular intervals (fig. 1). These radials varied in length from 3 feet to 3 feet 10 inches by a thickness of 1 foot 4 inches to 1 foot 9 inches, each leaving a gap of 2½ feet to 3 feet 4 inches between its outer end and the face of the surrounding wall, except that the eastern radial measured 6 feet 6 inches in length, extending all the way to the boundary wall without any gap, while that on the south was continued by a slab 1 foot 10 inches long and 2 feet high, thus reducing the outer gap to 1 foot. The segments or chambers (marked *a* to *g*) contained between these seven radials were closed at their inner ends or backs—these spaces averaging about 5 feet in length—by unsubstantial walls composed of small slabs built up on end; segments *a* and *f*, however, remained fully open, and chamber *e*, which, although closed, had been apparently at one time partly open to allow access to a sink. A central chamber of heptagonal shape was thus

¹ *North Uist*, p. 120.

² While staying with Mr Beveridge, in Vallay, in 1914, I had the opportunity of visiting these sites and discussing their structural features with him. Mr Beveridge in *North Uist* had included the buildings on Eilean Maleit and Cnoc a' Comhdhalach amongst his list of *duns*, but was not quite satisfied with this classification. The structure on Eilean Maleit is perched on, and occupies the greater part of, a rocky outcrop, near the south-western corner of Vallay Strand, which could not carry any depth of soil, so that the buildings were practically above ground, but at Cnoc a' Comhdhalach an excavation had certainly been made, not very deep, to receive the buildings. We came to the conclusion that as these two structures had too many entrances for defence, and as their internal buildings so much resembled those at Machair Leathann—the finest of all the wheel-shaped earth-houses excavated—which lies only three miles to the north-east, and those at Usinish, South Uist, the whole group in Vallay Strand should be placed in the same category.

formed, measuring about 13 feet across, this, as also the radial segments, being for the most part, if not entirely, paved with comparatively small thin stones.

Without question this site at Garry Lochdrach has been an underground dwelling enclosed by a massive sea-wall varying from 8 feet to $11\frac{1}{2}$ feet in thickness, at the edge of the small bay to its south, and elsewhere by a slender lining wall of about 18 inches thick built against

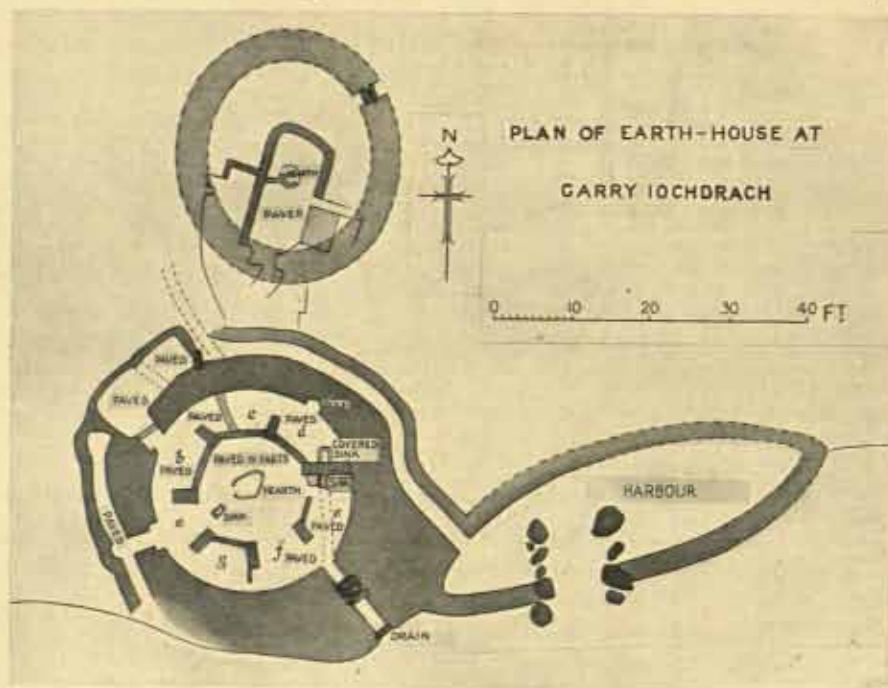


Fig. 1. Plan of Earth-house at Garry Lochdrach, North Uist.

the adjoining bank. This consists, not of sand as at Foshigarry, but of earthy soil intermingled with rock and loose stones.

The base of the whole structure showed a gradual rise of at least 18 inches from south to north, and it is to be specially noted that in chambers *b* and *c* their paved floors had been secondarily raised to the extent of about 12 inches, both sets of floors remaining complete in each case at the time of excavation. Within the upper pavement of *b* was embedded a small pounder, and between its floors were found a hammer-stone, a bone pin, a small nicked stone, and some fragments of patterned pottery, as also two lumps of clay, one of them large. Between the double floors of *c* lay two hammer-stones and some fragments of pottery.

It was also found that the walls closing the inner ends (or backs) of chambers *b*, *c*, *d*, and *e* were not built up regularly from the main floor, all of them evidently belonging to two separate periods. Those at *c*, *d*, and *e* were of double thickness in their lower portions. Moreover, the wall behind *b* contained a large stone recessed in one end as if for use as a mortar; in that behind *d* were found a large pottery whorl, a pounder, and two hammer-stones; while into like position in *e* had been built in part of a quern-stone.

Full evidence was hardly available as to the original roof-height of this earth-house, although it may be fairly taken as varying from about 4 feet to 5 feet. At chambers *a*, *c*, and *d* the outer enclosing wall seemed to retain its full original height of 4 feet, 5 feet 2 inches, and 4 feet respectively; while the western radial stood to 4 feet 11 inches above the floor at its inner end, and the others to about 3 feet 6 inches. The western, eastern, and southern radials were covered only by a sod of 4 inches in thickness, while the other radials had a thickness of 1 foot 9 inches, 11 inches, and 2 feet 2 inches of soil between them and the grassy surface. In the circumferential wall, exactly opposite the south-west radial, were found three courses of not very large stones coving inwards and upwards, commencing from a height of 3 feet above the floor. Here, at least, the gap outside the radial has been arched, but the radial chambers themselves were undoubtedly roofed with stone slabs. It must be noted, however, that two of the seven roof-slabs found lay in the central chamber.

The chief interior features of the earth-house were a central hearth and three sinks. There had indeed been three hearths at successive periods, the lower and largest at the original floor-level, and two others at elevations of about 17 inches and 2 feet 4 inches, the latter bearing a thick deposit of ashes to the extent of 3 feet, up to within about 15 inches of the natural turf. Of these hearths the lower and upper were of irregular shapes, each with four curved sides; while the intermediate was oval and much smaller. Their greatest dimensions, within stone edgings, 3 inches to 8 inches in width, were:—lower hearth, measuring 4½ feet by 3 feet 11 inches, on clay at south, paved to north; mid hearth, measuring 3 feet 2 inches by 2 feet, paved upon 2 inches of clay; upper hearth, measuring 4 feet by 3 feet 10 inches, unpaved.

Half-way between the hearth and the south-west radial was another sink, measuring 1 foot 8 inches by 11 inches and 16 inches deep, with its base 1 foot above the floor, being obviously a secondary insertion, and no doubt coeval with the middle hearth. Within it were found bones (probably of the cow), limpet and periwinkle shells, a piece of cetacean bone, fragments of the usual pottery, and an abundance of ashes. Indeed,

the whole of this large central chamber was practically filled with peat ashes. There was some appearance of a slanting chimney, measuring 2 feet by 1 foot 9 inches, near the inner end of the eastern radial, but this must remain doubtful.

It was most interesting to observe, on 4th Sept. 1913, that an exceptionally high spring-tide had penetrated to the outer edge of the lower hearth. A fact like this may not unreasonably explain an erection of the middle hearth and of the raised sink just noted, and also account for the double floors in chambers *b* and *c*, together with the secondary arrangement of the inner walls closing chambers *b*, *c*, *d*, and *e*.

Two other sinks (already mentioned in passing) were found in chambers *d* and *e*, both of them paved and adjoining the eastern radial. The first of these had been set north and south within the floor, measuring 1 foot by 1 foot 8 inches, and covered by a single slab, measuring 1 foot 5 inches by 2 feet 2 inches. In it were found two hammer-stones. The second sink, close to the encircling wall, measured 1 foot 6 inches by 2 feet 11 inches; it lay east and west, with its base at the floor-level, and a low platform extended from it to the central chamber at a point opposite the north end of the hearth. Both of these neighbouring sinks led into a drain which ran southwards through the middle of chamber *e*, immediately below the paved floor, emerging opposite the south-east radial, with an average width of 21 inches, in a south-easterly direction through the massive sea-wall, there showing its greatest thickness of $11\frac{1}{2}$ feet.

Chamber *d* contained, in the upper part of its boundary wall, an unusually large bole or cupboard which measured 16 inches wide by 14 inches high. It was squared in front, but tapered to a point at the back, its depth being 19 inches. Within it were found a hammer-stone and a fragment of ornamented pottery. Upon the top of the eastern radial, in a nest of soil, lay a stone whorl, in chamber *e* a socket-stone; in chamber *a*, close to the inner doorway of the main entrance, several pieces of cetacean bone, the two largest shaped artificially for some special purpose. A small clay crucible containing traces of bronze was found in chamber *e*; and on the top of a low curved wall crossing chamber *c* just above its floor, a piece of thin flat pumice, oblong in shape, but with one curved end through which a hole had been pierced. As to the general site, apart from the few items already noted incidentally, the chief finds consisted of hammer-stones (including a dozen in quartz), fragments of the usual rude pottery, small, rounded or squared, thin slabs of schist, whorls in stone, bone, and pottery, small pieces of pumice, and a few bone pins. Deserving of individual notice are:—half of a jet or lignite bead, a finger-ring in horn, the handle of a neat weaving-comb

bearing two bands of incised diaper pattern, part of a small-toothed comb with dot and circle ornament, and a tiny crucible of pottery only $\frac{3}{4}$ inch in diameter, and somewhat resembling two others previously found at Cnoc a' Comhdhalach and Foshigarry. Another object seems to require special and more detailed description. This is a water-worn quartz pebble, about $2\frac{1}{4}$ inches in diameter by 1 inch in thickness, bearing upon each of its two opposite and comparatively flat faces what is apparently a symbolical design clearly outlined in a reddish and almost indelible pigment. A small hammer-stone also bore similar markings though much less clearly defined.

The main entrance to this earth-house was from the south-west into chamber *a*, between the western and south-western radials. With its outer opening just above the shore, and an apparent height of about 4 feet, this passage, measuring from 19 to 22 inches wide, first ran for 6 feet straight towards the north-west, and then turned abruptly at right angles in a width of 2 feet 5 inches, and a length of 4 feet, the latter measurement including a recess of 18 inches at each side of its inner end, where it widened to 4 feet, evidently to contain a door barred from within.

Close to the shore, 3 yards west from this doorway, were found traces of an exterior drain, and near its exit a peat and a small piece of wood embedded in the soil at a depth of about 3 feet below the surface. It seems hardly possible, however, to associate this feature, and more especially the perishable objects there found, with the prehistoric site under present notice.

At the north-west boundary of this earth-house, midway between the western and north-western radials, was the opening into a small annexe in the form of a rectangular chamber, which was entered through a passage of about 4 feet wide, with walls in part reaching 4 feet 5 inches in height, and covered, previous to excavation, by soil to a depth of nearly 2 feet. Emerging from chamber *b* in a width diminished to 20 inches by an 8-inch jamb, this access expanded to 3 feet at a narrow sill crossing its floor, with a second and similar jamb in the chamber immediately beyond. Both of the lateral recesses thus formed near the extremities of the passage were situated in corresponding positions on its south side, and seemed to indicate the former existence of double doors, one at each end, and capable of being barred inside at will, so as to prevent any access from the main earth-house.

This chamber—paved also, and measuring about 14 feet in length from south-west to north-east, by 6 feet in width—does not readily lend itself to description, having evidently undergone secondary treatment, especially with regard to an inserted wall, unbonded at both ends, across its northern portion, this wall indeed containing, low down towards the west,

a small bole which measured 10 inches in length by 3 inches in height. Here were found two pottery whorls, one unfinished, and a stone ball indented by two slight artificial hollows precisely opposite each other.

A peculiar and not obviously intelligible feature in association with this site at Garry Iochdrach was a narrow exterior passage, 20 to 27 inches wide, and paved with small stones, almost, if not completely, encircling its landward portion—that is, on the west, north and east. At the south-west, this passage, as shown upon the ground-plan, continued in a direct line with the first 6 feet of the main entrance, starting from the point where the latter turned at right angles into the actual doorway of the earth-house. Thence, bordered by slender stone linings and separated from the main fabric by 4 feet to 5 feet of intervening walls and soil, it continued for a length of 15 feet, including an irregularly shaped enlargement of about 3 feet 6 inches by 4 feet 2 inches at its termination close to the south wall of the north-western chamber. Upon the floor of this passage, midway in its course, lay two cover-slabs, the larger of them 3 feet long.

Probably at the original period of its construction this access had completely traversed the adjoining chamber, entering it from the south through a doorway 3 feet wide, (even now traceable as having been built up at an after-stage), and emerging by a much narrower exit at the north-east. This latter opening—now less than 1 foot in width, but with its sides certainly fallen in—had a still-existing cover-slab, underneath which it was possible for a man to creep, a fact twice proved in the course of excavation. Beyond the further end was revealed a continuous paved passage from 1 foot 8 inches to 2 feet wide and with a total length of about 40 feet. In its northern portion, where it ran approximately east and west for 14 feet, it was situated from 3 feet to 5 feet outside the main structure, with walls 3 feet 6 inches high, their tops covered by quite an equal depth of accumulated soil, including what seemed to be the foundations of a comparatively modern cottage upon the very summit. For the remaining 26 feet of its course, this passage, between slight walls, took a south-easterly direction, but in an irregular line and at a gradually increasing distance of $3\frac{1}{2}$, $4\frac{1}{2}$, and $7\frac{1}{2}$ feet from the inner side; finally it reached the shore at a point $12\frac{1}{2}$ feet east from that where the large drain already noticed emerges from the earth-house proper, the passage and drain running almost parallel with each other at this interval for the southmost 4 yards.

Within the walls of this passage lay ashes and fragments of pottery, but, apart from these, few relics of former occupation were found. At the west they included some patterned pottery, two hammer-stones and a pounder, and near the floor two or three rude bone pins: at the north,

a quartz hammer-stone, a piece of pumice, two fragments of iron, a broken bone pin, and half of a centrally perforated disc of unburnt clay, $3\frac{1}{2}$ inches in diameter: at the east, a flaked flint and a bone pin: as also, in the north-west chamber, two small hammer-stones, more decorated pottery, and a small stone cube measuring 1 inch across.

A most interesting feature in connection with this earth-house at Garry Iochdrach is the existence, within 2 yards to the east, of a boat-harbour, apparently contemporary in date. Of elongated oval shape, and with extreme interior dimensions of $48\frac{1}{2}$ feet by $12\frac{1}{2}$ feet, lying approximately east and west, this harbour abuts upon the shore at its north side, where it shows but a slight boundary wall. On the south, however, there still remains a substantial breakwater from 3 feet to $4\frac{1}{2}$ feet in width, composed of large blocks of stone, and extending for the entire length, except where a gap or entrance, 7 feet wide, was left 14 feet from the south-west corner.

Situated in a very shallow bay, within a remote corner of Vallay Strand, this harbour could only have served boats of the lightest draught, and for no more than three or four hours at high water of ordinary tides. About 4 yards north from the earth-house, and at an elevation of 8 or 9 feet above its base, immediately beyond the supposed foundations of a former cottage, is a small flat area upon which stands an oval enclosure, no doubt of comparatively modern date and with all the appearance of having served as a sheep-fold. With exterior dimensions of $32\frac{1}{2}$ feet by 29 feet and interior ones of 24 feet by $20\frac{1}{2}$ feet, and its axis almost north and south, the wall of this construction showed a very regular thickness of 4 feet 3 inches, with a present height varying from about $1\frac{1}{2}$ foot to 3 feet, this latter height chiefly towards the south end, where half of the wall lay below and half above the soil. At the north-east side is a narrow entrance, with three courses of building. It is only 14 inches high, 12 inches wide at its centre, and 17 inches at each end, with two covering-slabs apparently still in their original positions. This enclosure is a mere surface erection and may be dismissed as of no antiquity, although at lower levels on the same site there seem to have stood two ancient dwellings in succession, at perhaps widely separated periods.

Excavation near the middle of this fold revealed the foundations of a somewhat oblong building about 7 feet in width by 18 feet in length, not clearly defined at its south extremity, which, however, seemed to extend half-way under the south wall of the fold. The straight and well-built west wall of this erection partly remained in three courses to a height of 2 feet, and was covered by about 14 inches of soil. Within this dwelling, 4 feet from its north wall, but centrally placed as to width, was found a hearth 2 feet 10 inches in diameter, with ashes in abundance. Nearly

opposite to it to the east was a 12-inch passage through the wall, and to the west a step or sill, giving a slight rise in the floor from that point northwards. The whole building was paved, including the hearth which was 2 feet below the surface. Underneath the west wall of this intermediate building were found scattered ashes, and below its floor various implements, including two stone whorls, one in an unfinished state, two bone pins, and a smoothing-stone. These were evidently to be associated with a still earlier and even prehistoric dwelling, its floor lying from $1\frac{1}{2}$ foot to 2 feet under that of the other, the depth below the surface of the sheep-fold being nearly 5 feet. Here were the remains of a slab-paved floor and also of a large paved hearth, the latter covered by ashes to the thickness of 1 foot, with burnt shells and bones. This hearth extended westwards from beneath the south-west corner of the upper building, and at about 6 feet further west were traces of an outer wall running northwards for nearly 3 yards. In this quarter indications also appeared of a continuation for about 10 feet towards the north-west of the passage already described as outside the north exterior of the earth-house. These, however, were very indistinct, the base rising gradually to within 3 feet of the surface upon solid rock covered by a layer of clay, 1 to 2 inches thick.

At this sheep-fold site pottery was comparatively scarce, but a group of coarse plain fragments measuring from $\frac{3}{4}$ inch to $\frac{1}{2}$ inch in thickness were recovered. There were also found a very few hammer-stones, whet-stones, smoothing-stones, flaked flints, bone pins, fragments of corroded iron, and two small lumps of pumice. Other notable items were the complete but broken stem of a bronze free ring-headed pin, 5 inches long, its small square head ornamented with dots and lines, but wanting the movable ring; an unbaked ring of clay, 5 inches in diameter, with flat base and curved top, a $\frac{1}{2}$ -inch hole pierced through its centre; and a piece of heavy soapstone squared at the base and ends, but with a domed top, measuring $7\frac{1}{2}$ inches in length by 3 inches in width and height, and bearing cut marks, straight in most parts and waved in others, over nearly its whole surface.

About 5 yards east of the fold, 1 foot below the grass and close to a row of small stones set in position opposite a rock-face—no doubt indicating the site of some outer construction—were found a few pottery fragments of quite different type and perhaps made on a wheel, probably attributable to a distinctly later period.

The following relics were found in or near the earth-house:

OBJECTS OF STONE.

Forty-five hammer-stones or pounders; parts of querns; a hollowed stone; a reddish-brown, irregular, oblong object, 3 inches in length,

slightly incised with quadrilateral panels on the two opposite faces; two water-worn pebbles with streaks of rust on them—strike-a-lights—one having also been used as a hammer-stone; five whet-stones; six smoothing or polishing stones, three of symmetrical shape; a ball of granite, 3 inches in diameter, with depressions on opposite sides; an oblong piece of mica schist, $7\frac{1}{2}$ inches in length, of plano-convex section, with truncated ends, scored with tool marks, and pitted on the upper surface; three pieces of mica schist, from 5 inches to 7 inches square and 1 inch thick; seven pot-lids of the same material, from 3 inches to 5 inches in diameter, and from $\frac{3}{4}$ inch to $\frac{1}{2}$ inch thick; a thin polished disc of clay-slate, 2 inches in diameter; eight whorls, of which four were domed and two flat, the perforation in one of the latter being incomplete; a small shaped stone, perhaps an unfinished whorl; a fragment of the rim of a vessel of mica schist; sixteen pieces of pumice, one $1\frac{1}{2}$ inch long, being thin and pierced near one end; two socket-stones; half of a bead of jet or shale, $1\frac{1}{2}$ inch in diameter; and eight flint flakes.

OBJECTS OF METAL.

Twenty-two fragments of much-corroded iron, including rivets, pieces of knife-blades, and an instrument 5 inches long, with two long prongs; four lumps of iron slag; a free ring-headed pin 5 inches long, wanting the ring, and another pin with ornamental head, 3 inches long, much corroded, of bronze; and a fourth-century Roman coin of Constantius II. found in the entrance to the long chamber on the north-west.

OBJECTS OF DEER-HORN.

A finger-ring of irregular shape; two cut points of tines; and five shaped segments of antlers, two of them flat, thin slices, the longer pierced with two holes.

OBJECTS OF BONE.

Weaving comb, 4 inches long, showing the stumps of ten teeth, the handle decorated with two transverse bands of lozenge designs; small flat piece with cuts; a large slab, 25 inches long, 5 inches wide, and $7\frac{1}{2}$ inches thick, shaped throughout, with flat sides and oval ends, pierced close to one end with a circular hole, $2\frac{3}{4}$ inches in diameter, and showing a circular hollow cut to a depth of $1\frac{1}{2}$ inch near the opposite end; segment of a large vertebra, measuring from 5 inches to 7 inches in diameter, a circular hole through the centre; and three smaller lumps partly shaped, all of cetacean bone.

Fragments of a small-toothed comb, with dot and circle ornamentation; three whorls; two needles, one $2\frac{1}{2}$ inches long with a broad head, and the

other imperfect; five pins with round heads, and one with an ornamental head, 3 inches long, wanting the point; seventeen pointed tools, mostly of rude shape; and eleven shaped fragments, seven of which bear traces of corroded iron.

POTTERY.

Two crucibles, the larger 2 inches in diameter, from chamber *c*, containing traces of bronze, and the other imperfect; a small hemispherical crucible, $\frac{7}{8}$ inch in diameter, of the type found in the Foshigarry earth-houses; fourteen whorls made of shards of pottery, varying from $1\frac{1}{2}$ inch to $2\frac{1}{2}$ inches in diameter, seven being unpierced discs; portion of a large ring which had measured about 18 inches in diameter when complete, the ring $3\frac{1}{2}$ inches across; two rings of unbaked clay, measuring 5 inches and 3 inches in diameter and $1\frac{1}{4}$ inch and $1\frac{1}{2}$ inch in thickness, each with a hole in the centre $\frac{1}{2}$ inch in diameter; two large lumps of clay found in chamber *b*, between the double floors; and two hundred and sixty-two fragments of vessels, showing at least thirty-three different decorative patterns, both incised and applied, but chiefly the former.

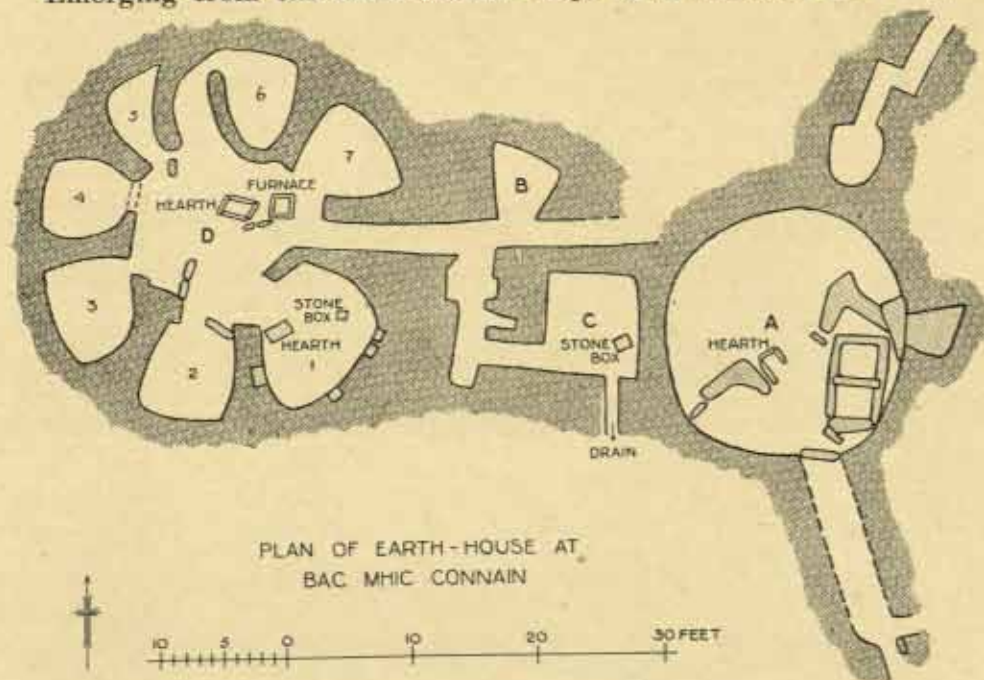
EARTH-HOUSE AT BAC MHIC CONNAIN. WITH NOTES ON THE STRUCTURES AND RELICS FOUND. BY J. GRAHAM CALLANDER.

On one of the numerous sand-covered hillocks lying to the south of the watershed of the tidal islet of Vallay, about 180 yards north of the bay at Saltam, in Vallay Sound, and a quarter of a mile north-west of Vallay House, an earth-house was discovered by Mr Beveridge in the autumn of 1919. Excavations were commenced on the 13th August and continued until the 23rd September. The site appeared as a mound running west-north-west and east-south-east, steepest towards its south-eastern end, and tailing off in a long sloping shoulder towards the west. It measured about 45 yards in length and 25 yards in breadth, and rose about 12 feet above its south-eastern margin.

The earth-house consisted of two circular chambers, with two smaller quadrangular compartments between them, while to the north-east and south-east of the eastern one were the remains of buildings of indefinite character (fig. 2). The circular chamber to the west, D, which was of the wheel-shaped variety, so well known from Mr Beveridge's previous excavations in the neighbourhood, was larger than Chamber A on the east, and its floor lay at a lower level. Access to the former chamber, however, seems to have been obtained through a narrow passage from the east. The surviving portions of the walls of the chambers and

passages gave no indication of their original height, as apparently in late times, possibly when the present steading on Vallay was being erected, the site had been used as a quarry, and the roofs and upper parts of the walls had been carried off as building material. As will be seen later, the earth-house had either undergone considerable reconstruction or had been built on an earlier inhabited site.

Emerging from the south-eastern slope of the mound, at a higher



PLAN OF EARTH-HOUSE AT
BAC MHIC CONNAIN

Fig. 2. Plan of Earth-house at Bac Mhic Connain.

point than the base, were the remains of a walled passage, measuring 3 feet 6 inches in width, which ran in a northerly direction for 18 feet, where it entered Chamber A a little to the east of its most southerly point. At the entrance the passage may have been narrower, or even access to it may have been from the east, but here the building was too fragmentary and disturbed to permit of the details of the original structure being ascertained. The passage was for the main part paved, and where it entered the circular chamber there was a flat slab projecting 6 inches above the floor and forming a door-sill.

Chamber A was nearly circular, measuring 19 feet in diameter from north to south and 18 feet 7 inches from east to west, the walls being generally reduced to a height of 3 feet to 4 feet. Above these were

layers of sandy loam about 1 foot to 1 foot 3 inches thick. In the south-western section of the chamber was a radial wall, measuring 4 feet 9 inches in length, the inner end of which was carried to the south-east for about 3 feet more. This radial wall stopped 2 feet 1 inch from the main wall, the vacancy being blocked by an upright slab. On the opposite side of the chamber were the fragments of another divisional wall, but instead of being set radially it extended inwards from the main wall first in a north-westerly direction and then in a curve to the north, for a distance of 5 feet 8 inches; from this point it made a quick return to the south-south-west for other 5 feet. A few inches from its southern termination stood a thin upright slab. Close to the inner end of the south-western radial wall, above floor level, were the remains of a hearth, the kerb being formed of stones set on edge. Only the north-west end was complete, and it measured 12 inches in breadth, the remaining parts on the north-east and south-west sides measuring 1 foot 8 inches and 2 feet 1 inch in length respectively. Close to the south-eastern wall of the chamber was a large rectangular structure formed of slabs set on edge, and measuring externally about 7 feet 6 inches in length from north to south and about 5 feet in breadth; slightly to the south of the centre it was divided into two compartments by a slab also set on edge.

In the most easterly part of the main wall of the building was a large four-sided recess widening inwards from 3 feet 6 inches to 4 feet 6 inches, the northern and southern sides measuring 4 feet 4 inches and 3 feet 6 inches in length.

At the floor level in the wall on the north-west of the chamber was an opening, 10 inches wide and 5 inches deep, which led into a drain running in a westerly direction.

There was no clear evidence that there was any communication between Chamber A and any of the others in the earth-house, but near the most northerly part of the main wall were indications that an opening 3 feet 4 inches wide may have been built up.

In excavating this chamber Mr Beveridge found that, after removing the turf and the blown sand below it, the interior was filled with a dense dark sand which yielded the greater part of a saddle quern half-way down to the floor, and pieces of cetacean and other bones, hammer-stones, and shards of pottery at different levels. From this he concluded that the building had been filled in, possibly at the time when the place had been plundered for building stones. The hearth was at a higher level than the floor; and under the latter and at a lower level than the foundations of the wall, beneath a layer of sand 6 inches thick, was found a deposit 12 inches deep, containing shells, bones, pottery, and ashes.

From the outside of the wall on the north-west of Chamber A, and about 1 foot 6 inches higher, was a passage 2 feet 9 inches wide running in a westerly direction for a distance of about 20 feet, when it entered Chamber D. Its eastern extension, which probably formed the entrance, was very dilapidated, and so this feature could not be traced out. Running along the south side of the passage, just under the floor, was a drain, one end of which was seen in the north-western wall of Chamber A. Under this passage were other two drains superimposed one on another, and both under the one just described. Bones were found as low down as the deepest drain.

On the northern side of the passage, about 9 feet 6 inches along, was an entrance, 2 feet 7 inches wide, opening into Chamber B, a small four-sided cell, the walls of which on the west, north, and east measured 5 feet 6 inches, 6 feet 3 inches, and 4 feet 7 inches in length. The wall on the north consisted of five slabs set on edge.

Slightly to the west of this cell, on the opposite side of the corridor, was another passage striking in a southerly direction, its entrance being 2 feet 7 inches wide, and its total length 10 feet 6 inches. Immediately on entering, the western wall slanted to the south-west, ran south for 2 feet 6 inches, and returned sharply to the east, forming a recess 3 feet 4 inches wide at the mouth and 1 foot deep. On the east side of the passage, at distances of 2 feet 8 inches and 5 feet 8 inches from the entrance, were two recesses, the first 2 feet wide and 1 foot deep, and the other 1 foot 6 inches wide at the mouth and tapering to 9 inches at the back, its depth being 2 feet 8 inches. About 1 foot 2 inches beyond the second recess a passage branched off at right angles to the east. It was 2 feet 6 inches wide, and, after a length of 4 feet 6 inches, entered Chamber C. The passage running south was carried 2 feet 6 inches beyond the south side of the entrance to the latter chamber, and at its termination had contracted to a width of 1 foot 10 inches.

Chamber C was oblong on plan, and measured about 8 feet in width from east to west and slightly more from north to south. At the foundation level of the south wall, 2 feet 4 inches from the south-eastern corner, a drain was traced running south for a distance of 5 feet 6 inches. In the floor near the centre of the south-eastern quarter of the chamber was a small rectangular box formed of slabs set on edge, measuring 14 inches in length, 8 inches in breadth, and 12 inches in depth, which was furnished with a flat stone as a cover.

A very decayed slab of cetacean bone, 2 feet 6 inches in length, 7 inches to 9 inches in breadth, and 2 inches in thickness, a whale's vertebra, 9 inches in diameter and 6 inches in thickness, showing many cuts, a hammer-stone, a piece of pumice, a small crucible, four pieces

of slag, an iron rivet, pieces of deer-horn, bones showing cuts, and shards of pottery were recovered from the chamber.

Chamber D, the largest of the group, was of the wheel-shaped type, with radiating divisional walls between the seven cells ranged round its circumference. It measured 29 feet in diameter from east to west and 27 feet from north to south. The floor level, which was considerably lower than that of the present passage entering it from the east, was about 8 feet 6 inches below the surface of the ground, and generally there was an accumulation of soil and sand on the top of the walls varying from 2 feet 3 inches to 4 feet 6 inches in thickness. As we have seen, there had been three superimposed drains in this passage, which indicated two reconstructions in this part of the building. Presumably the original floor of the passage would be about the level of the floor of Chamber D.

The radial walls of this chamber spring from the main encircling wall, there being no vacant space between them as in the majority of the wheel-shaped earth-houses in the neighbourhood. Generally after leaving the main wall they narrow slightly, and widen out again at their inner ends—that is, towards the centre of the chamber. The cells thus formed are more or less bulbous on plan.

Entering the chamber from the passage, the radial walls on the south side of Cell No. 7, and on the north side of Cell No. 1, formed a prolongation of the entry right into the open centre of the building.

Cell No. 1, which lay to the south-east, measured about 10 feet 6 inches in greatest width and 9 feet in depth. Its wall on the north made an obtuse bend towards the south-west, so that the space between it and the inner end of its western wall formed an entry to it about 3 feet 10 inches broad. While the main wall at the back measured 6 feet 9 inches in height, the front wall was only 2 feet 7 inches, its foundation being at a much higher level. In the lower courses of the main wall, which was corbelled inwards, clay seemed to have been used as mortar. About 12 inches from the western wall was a hearth formed of slabs set on edge and measuring 2 feet 3 inches in length and 1 foot 10 inches in breadth—three of the slabs were 16 inches in height. The hearth was built above the floor level, and under its northern end was found a large oviform clay pot in an inverted position (fig. 3), no relics being found in it. In the south-eastern half of the cell was a small, slab-lined, paved box, measuring 10 inches in length, 9 inches in breadth, and 8 inches in depth, which had a slab cover "strongly marked with soot above." It contained a large hammer-stone. Half-way up the western wall was a large bole or recess, measuring 16 inches in width at the bottom, 14 inches at the top, 14 inches in height and the same in depth; a piece of antler

and two hammer-stones were found in it. High up in the main wall were two small boles close to each other, that to the east containing a piece of cut deer-horn, and at the floor level on the south-east was another small recess.

In addition to the clay pot already mentioned, this cell yielded eight slabs of cetacean bone, ten pieces of bone showing cuts, twelve pieces of deer-horn, one encircled by a groove worn by friction, a pebble with brown rust marks (a strike-a-light), a ground piece of pumice, shards of pottery, and a lump of iron weighing $2\frac{1}{2}$ pounds. At a depth of 4 feet under the hearth was a whale's vertebra, squarish in shape, which was supposed to have been used as a seat. Two weaving combs were discovered stuck into the wall to the north of the hearth.

The next compartment, Cell No. 2, which lay on the southern arc of the building, measured 7 feet 3 inches, 7 feet 6 inches, and 7 feet 9 inches along the east, south, and west walls, the south wall being 5 feet 4 inches in height. On the east side of the front of this cell was a slab set on end which reduced the width of the entrance to 2 feet 6 inches.

In the adjoining cell, No. 3, to the south-west of the circle, the main wall was reduced to a height of 3 feet. The wall at the back measured 8 feet 8 inches in length, that on the north 6 feet, that on the east, which had a rounded angle 4 feet 6 inches from the main wall and curved back towards the north, had a total length of nearly 12 feet. The entrance was only 1 foot 6 inches wide. About one-third of the floor against the the northern wall was paved, and the main wall was built with clay.

Cell No. 4, on the west, measured 6 feet 10 inches along the northern wall, 5 feet 6 inches along the back, and 7 feet 3 inches along the south, their greatest height being only 3 feet 3 inches. The entrance was 2 feet 3 inches in width, with a stone lintel still in position 1 foot 8 inches above the foundation of the wall. At the base of the back wall near the south-west and north-west corners were two small openings, probably drains.

The next cell, No. 5, was of peculiar shape. From an entrance 1 foot 6 inches wide it swung round towards the north-east, attaining a



Fig. 3. Clay Vessel from Bac Mhic Connain.

maximum width of 4 feet 1 inch, and terminating in a rather sharp angle. Its wall was about 3 feet 6 inches high.

In the north lay Cell No. 6, which, like the last, showed peculiar features. The wall at the back and the radial wall on the south-east were normal, measuring 6 feet 3 inches and 6 feet 6 inches in length, but the wall in front of the chamber curved round towards the west and north, overlapping the dividing wall between it and Cell No. 5, so as to form an entrance passage about 6 feet in length, narrowing from a width of 3 feet near the outer end to 1 foot 4 inches where it entered the cell. The walls of this building were badly plundered, as they varied from only 2 feet to 3 feet 2 inches in height.

The remaining cell, No. 7, on the north-east, showed a greater amount of walling in position, as it still stood 7 feet 5 inches in height at the back. This wall seemed to belong to two periods, the lower 2 feet 3 inches being "apparently older" than the part above. The compartment measured 5 feet 1 inch and 5 feet in length along the radial walls on the north-west and south, and 8 feet along the back wall. The entrance was 3 feet wide.

In the central portion of the building, which probably had never been roofed, was a hearth placed a little to the east of the centre. Formed of slabs set on edge, and laid with its axis tending north-west and south-east, it measured 3 feet 1 inch in length, and 2 feet 5 inches and 2½ feet 8 inches across the north-west and south-east ends.

Between the hearth and the end of the radial wall on the south side of Cell No. 7 was a very unusual structure, which Mr Beveridge believed to have been a furnace. Built of stone in the shape of a nearly square shaft with two openings on its west side, the total height of the erection was 3 feet 8 inches. Externally it measured 1 foot 11 inches in length and 1 foot 10 inches in breadth, while internally it measured 1 foot 2 inches by 10½ inches, with an inside depth of 3 feet. The upper opening on the west was placed 10¼ inches below the top and measured 10 inches wide, 6 inches high, and 12 inches long; the lower one, which was separated from the upper by a stone 3 inches thick, measured 8½ inches wide, 6 inches high, and 10 inches long. The foundation of the furnace was 1 foot 5 inches below that of the adjoining hearth. The space between the south-west corner of the furnace and the south-east corner of the hearth was blocked by two upright slabs placed in a straight line, the slab on the west overlapping the corner of the hearth by some inches.

No ashes were found in the furnace, but two complete crucibles and an imperfect one, the latter containing vestiges of bronze slag, and ten cut or shaped pieces of bone or deer-horn were discovered in it.

The floor of the central court was dug to a depth of 4 feet 9 inches below the top of the hearth, and many bones were found at the very bottom of the excavation; also, in every one of the cells the floors were lower than the foundations of the radial walls, in some places being more than 2 feet below them. Pieces of bones, antlers, and shards of pottery were found all the way down. Mr Beveridge was satisfied that many parts of the buildings showed signs of reconstruction.

As internal corbelling was noted in several places in some of the cells, it would seem that these had domed roofs, some of them, if not all, with a hole in the top to allow of the escape of smoke. In Cell No. 1 there was a large hearth which would have made living in it unbearable unless smoke could get away by some other aperture than the door.

Excavations were made to the north and south-east of Chamber A, but although indefinite lines of building were met with at both places, the only piece of structure which showed a regular plan was to the north-east. A passage about 2 feet wide was traced for some 5 feet towards the south-west, where it turned at right angles to the north-west for a distance of 2 feet 3 inches; it then struck to the south-west for 3 feet 3 inches, when it entered a small sub-oval cell, measuring 5 feet 6 inches in length and 4 feet 6 inches in breadth. In the excavations to the north-east, worked pieces of bone and deer-horn, including a pick, a pin, and an object with a perforation at one end, of the first-mentioned material, and a bit of a tine with a groove worn round it by friction, were discovered; two pieces of iron slag were also found.

The following lists of relics were discovered during the excavations:—

OBJECTS OF STONE.

Stone mould, incomplete, measuring $5\frac{1}{2}$ inches by $4\frac{5}{16}$ inches by $1\frac{1}{2}$ inch, showing on one face a matrix for casting a bar, measuring $2\frac{1}{2}$ inches by $\frac{7}{16}$ inch by $\frac{1}{4}$ inch, placed transversely, with the remains of a circular matrix on each side of it. On the opposite face traces of a matrix for a bar can be detected.

Stone mould for casting a bar or ingot (fig. 17, No. 10), measuring $3\frac{1}{2}$ inches by $2\frac{1}{4}$ inches by $\frac{5}{16}$ inch, the matrix measuring $2\frac{5}{16}$ inches by $\frac{9}{16}$ inch by $\frac{5}{16}$ inch. It was broken in two when found, but has been restored.

Two strike-a-lights formed of flat, oval, quartzite pebbles of brown colour, with an oblique groove on each face, measuring $2\frac{3}{8}$ inches by $2\frac{1}{8}$ inches, and $2\frac{9}{16}$ inches by $2\frac{3}{16}$ inches.

Ten flat, oval pebbles of quartz and quartzite with streaks of brown rust on each face, probably strike-a-lights, two having also been used as hammer-stones.

Flat, oval pebble of brown quartzite, measuring $3\frac{1}{8}$ inches by $1\frac{7}{16}$ inch,

with an oblique hollow on one face and an oblique groove on the other; both ends are abraded by use as a hammer-stone.

Hammer-stone of brown quartzite, of almost circular section, one side polished by rubbing, measuring $3\frac{7}{8}$ inches by $1\frac{7}{8}$ inch, and another of grey quartzite, measuring $3\frac{1}{2}$ inches by $3\frac{1}{2}$ inches. Ninety-one in all were got.

Socket stone of schist, measuring $5\frac{3}{4}$ inches in length.

Piece of pumice-stone, measuring $2\frac{3}{4}$ inches by $2\frac{3}{4}$ inches. Other ten fragments were recovered.

In addition to the above, fragments of one saddle quern and of three rotatory querns, a pot-lid, thirteen polishing or sharpening stones, and fifteen pieces of flint, of which a few showed slight secondary working, were found.

OBJECTS OF METAL.

Bronze pin measuring $4\frac{9}{16}$ inches in length, with a flat, circular head measuring $\frac{5}{16}$ inch in diameter.

Two pieces of iron slag and five iron rivets.

Fragment of red pigment, hematite, measuring $1\frac{5}{8}$ inch by $1\frac{1}{8}$ inch by $\frac{3}{4}$ inch.

OBJECTS OF BONE AND DEER-HORN.

Half of a hammer-head of cetacean bone (fig. 4, No. 1), measuring $1\frac{7}{16}$ inch in length, $1\frac{1}{8}$ inch in breadth, and $\frac{5}{8}$ inch in thickness.

Pieces of three spindle-like objects, showing oblique grooves worn by friction at the end where they are broken off (fig. 4, Nos. 2 to 4), measuring $1\frac{3}{8}$ inch, $1\frac{1}{4}$ inch, and $2\frac{7}{16}$ inches in length. The second has also a groove in the middle. The first two are made of bone and the third of deer-horn.

Four long-handled weaving combs of cetacean bone (fig. 5), one with ten teeth, complete, measuring $4\frac{1}{8}$ inches in length; another with ten teeth of which three are broken, measuring $5\frac{1}{8}$ inches in length; the third with eight teeth, one broken, measuring $4\frac{3}{8}$ inches in length; and the last, which has had at least ten teeth, all of which are broken off as well as the butt end. The last is decorated with an incised saltire between single marginal lines.

Two borers formed of thin splinters of bone, with long, narrow points (fig. 6, Nos. 1 and 2), measuring $5\frac{3}{8}$ inches and $3\frac{1}{2}$ inches in length, the first being bent into a regular curve.

Two awls or bodkins of cetacean bone (fig. 6, Nos. 3 and 4), measuring $3\frac{1}{2}$ inches and 4 inches in length.

A harpoon head made from the leg bone of a sheep, measuring $5\frac{1}{2}$ inches in length. It is bored at the thick end to form a socket, in

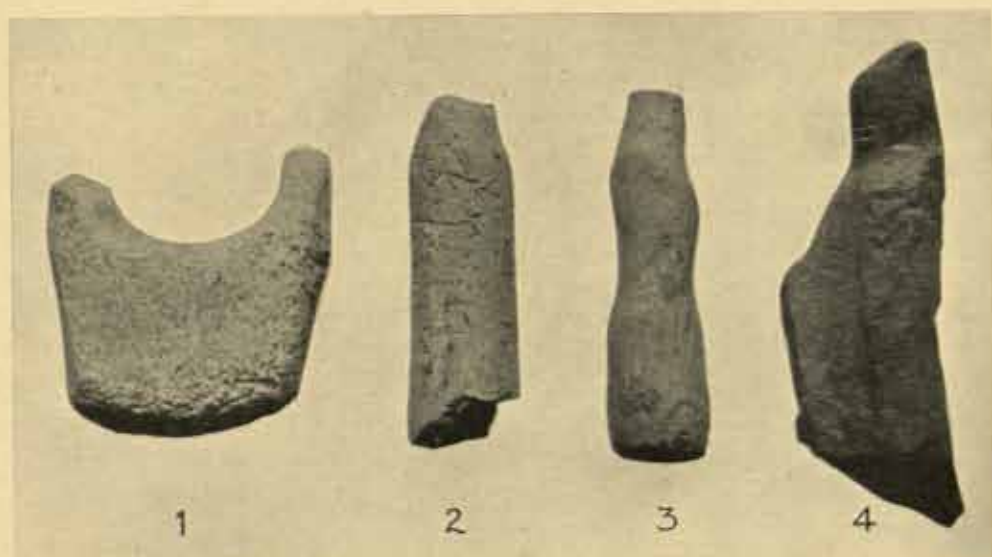


Fig. 4. Part of Hammer and other Objects of Bone from Bac Mhic Connain. (†.)

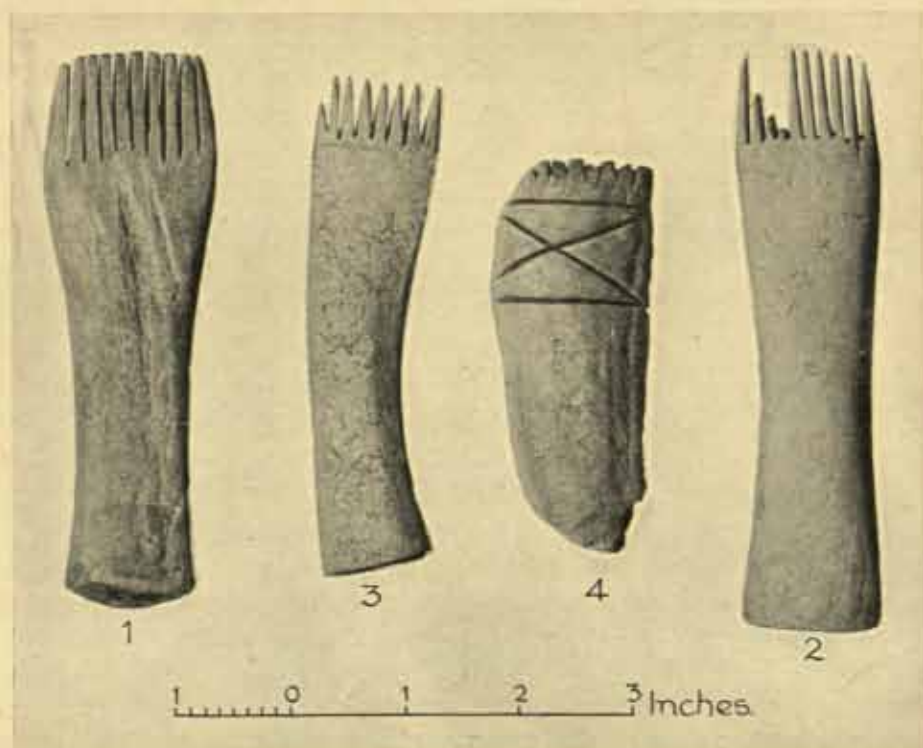


Fig. 5. Weaving Combs of Cetacean Bone from Bac Mhic Connain.

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which are two rivet holes; close to the point it is notched on each side so as to form a spade-like head (fig. 7, No. 1).

Four spear-heads made of leg bones of sheep, bored at the thick end to form sockets (fig. 8, Nos. 1 to 4), measuring $3\frac{1}{2}$ inches, $3\frac{1}{8}$ inches,

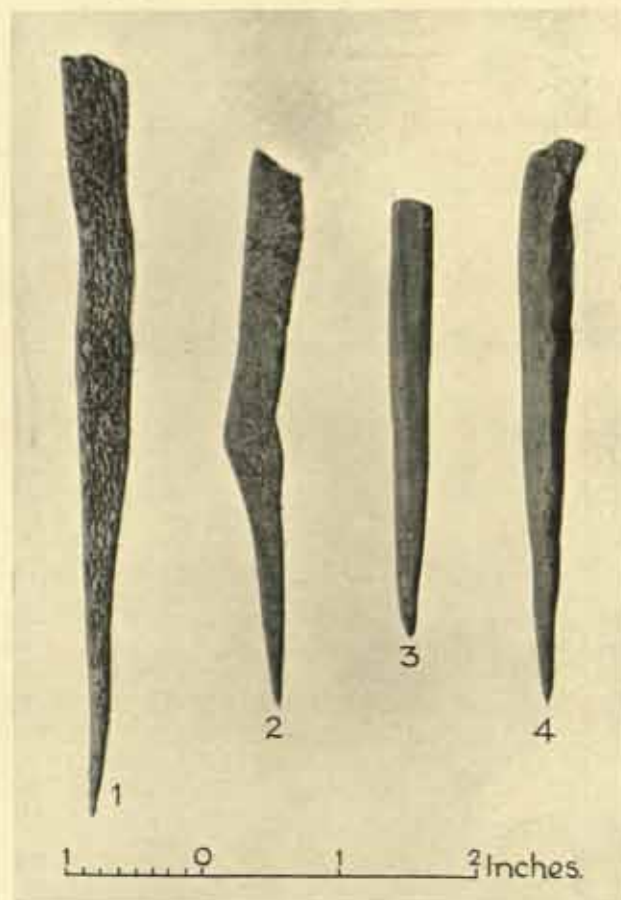


Fig. 6. Borers and Awls of Bone from Bac Mhic Connain.

$4\frac{9}{16}$ inches, and $4\frac{11}{16}$ inches in length; the first has two rivet holes in the socket, and the last, which is finely finished, has part of the socket split off.

Pointed object of bone, measuring 3 inches in length (fig. 8, No. 5).

Hollow cylindrical object of bone, measuring $4\frac{1}{4}$ inches in length, with a lattice design scratched on one side (fig. 7, No. 4).

Two hollow cylinders of bone, used as handles, sawn across both ends, measuring $1\frac{3}{8}$ inch and $2\frac{7}{16}$ inches in length.

Ten hollow cylindrical segments of deer-horn, some having been



Fig. 7. Harpoon and other Objects of Bone from Bac Mhic Connain. (†.)

used as handles (fig. 9), measuring from $\frac{1}{8}$ inch to $2\frac{3}{4}$ inches in length. The longest is imperfect at one end.

Part of the handle of an iron knife, with a portion of the tang

clasped between fragments of two bone plates by two iron rivets, measuring $1\frac{1}{8}$ inch in length.

Handle of a tool or knife, of deer-horn, measuring $3\frac{1}{8}$ inches in length, of oval section, bored for part of its length, and showing a rivet hole on each side.

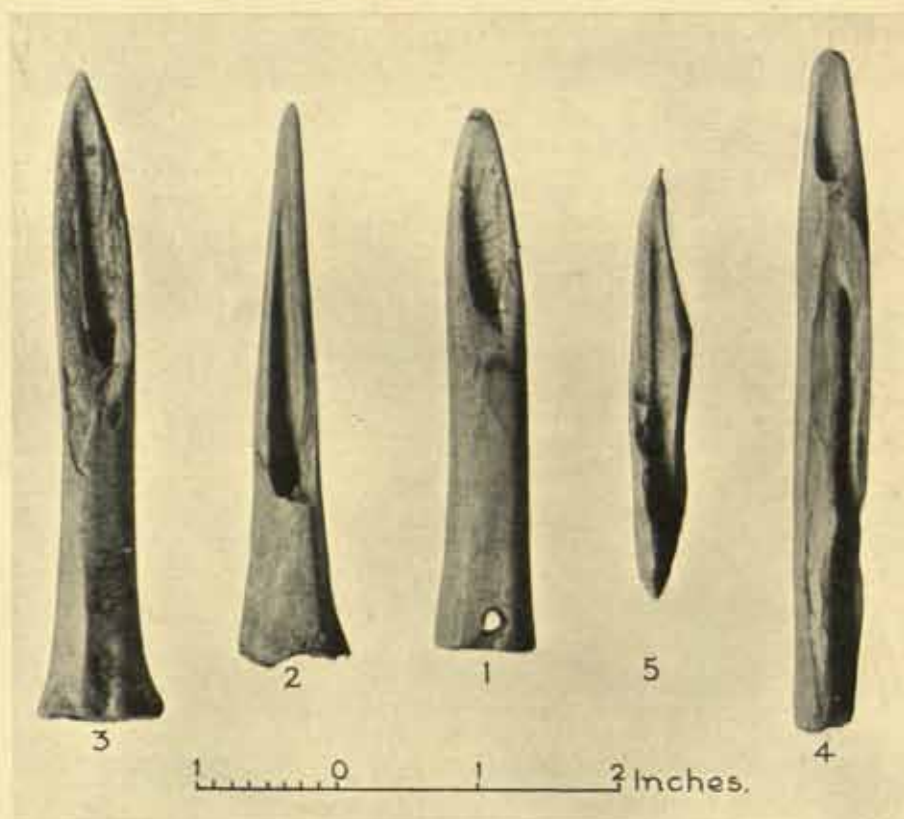


Fig. 8. Spear-heads of Bone from Bac Mhic Connain.

Part of a plate of deer-horn forming one side of the haft of an iron tool or knife, measuring $2\frac{1}{2}$ inches in length. It has two rivet holes, and there is rust adhering to the inside. From mid-north compartment.

Handle of deer-horn, measuring $2\frac{1}{2}$ inches in length, decorated on one side with a single dot and double circle design (fig. 7, No. 2).

Part of a hollow cylindrical handle of deer-horn, measuring $2\frac{1}{8}$ inches in length, finely rounded, with two dot and circle designs on one side (fig. 7, No. 3). A small strip of bone remains fixed in one end of the socket.

Two bone handles measuring $3\frac{7}{8}$ inches and $4\frac{1}{8}$ inches in length (fig. 10).

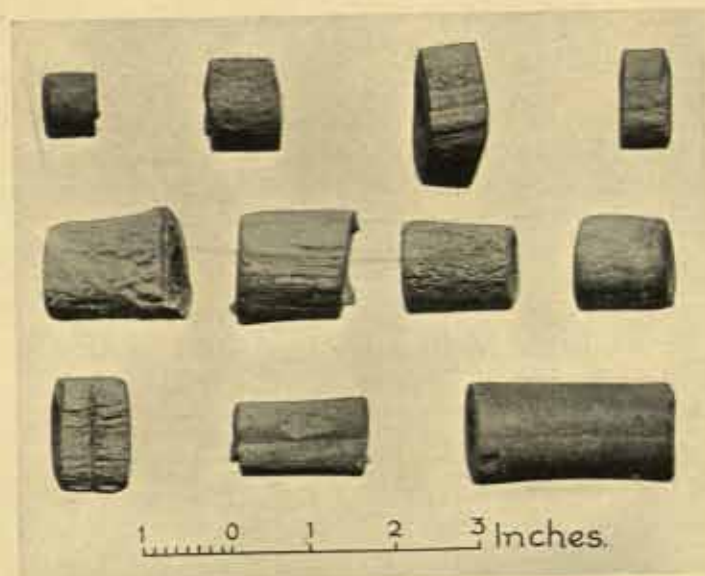


Fig. 9. Sawn and Pierced Segments of Deer-horn and Bone from Bac Mhic Connain.



Fig. 10. Bone Handles from Bac Mhic Connain

Handle of bone, measuring $2\frac{1}{8}$ inches in length. It tapers to a narrow truncated point, and is broken at the opposite end where the remaining part of the socket is encrusted with rust.

Handle of a knife of cetacean bone (fig. 11), measuring $4\frac{5}{8}$ inches in length and $\frac{5}{8}$ inch at the greatest diameter, tapering slightly in a gentle curve at the butt end. In the extremity of this end is a conical hollow; the opposite end is imperfect and retains the tang of an iron blade. The inner side of the handle is ridged and bears an Ogham inscription, which has been read as MAQUNM?DENCO(or U)T.

Two-pronged implement of cetacean bone, measuring $4\frac{1}{2}$ inches in length, the prongs, which are placed at each side of the spatulate end, being $\frac{5}{8}$ inch long (fig. 12, No. 8); the handle is constricted and is sharpened at one side of the butt end. From the south-east chamber.



Fig. 11. Knife-handle of Cetacean Bone bearing an Ogham inscription, from Bac Mhle Connain. (1.)

Punch of cetacean bone, now measuring $2\frac{1}{8}$ inches in length, broken at the butt end (fig. 12, No. 5).

Implement of cetacean bone, measuring $3\frac{1}{2}$ inches in length, squared at one end and pointed at the other, with one side straight and the other curved (fig. 12, No. 7).

Boring instrument of cetacean bone (fig. 12, No. 6), measuring $3\frac{1}{2}$ inches in length. It is of stout make, has a rounded projecting head, and is imperfect at the point.

Bracer-like object of deer-horn (fig. 12, No. 1), measuring $5\frac{1}{2}$ inches in length. There is a rudely cut hole near each of the ends, which are cut and not sawn off.

Object of deer-horn, measuring $5\frac{3}{8}$ inches in length, with an oblong cavity cut in one end connecting with a deep notch on the side, suggestive of a whistle (fig. 12, No. 3).

Object of deer-horn, measuring $2\frac{7}{8}$ inches in length, with a deep oval socket at the broad end; on one side is a broad sawn groove placed midway between two other similar grooves on the opposite side, the grooves being cut right into the socket (fig. 12, No. 2). From the furnace chamber.

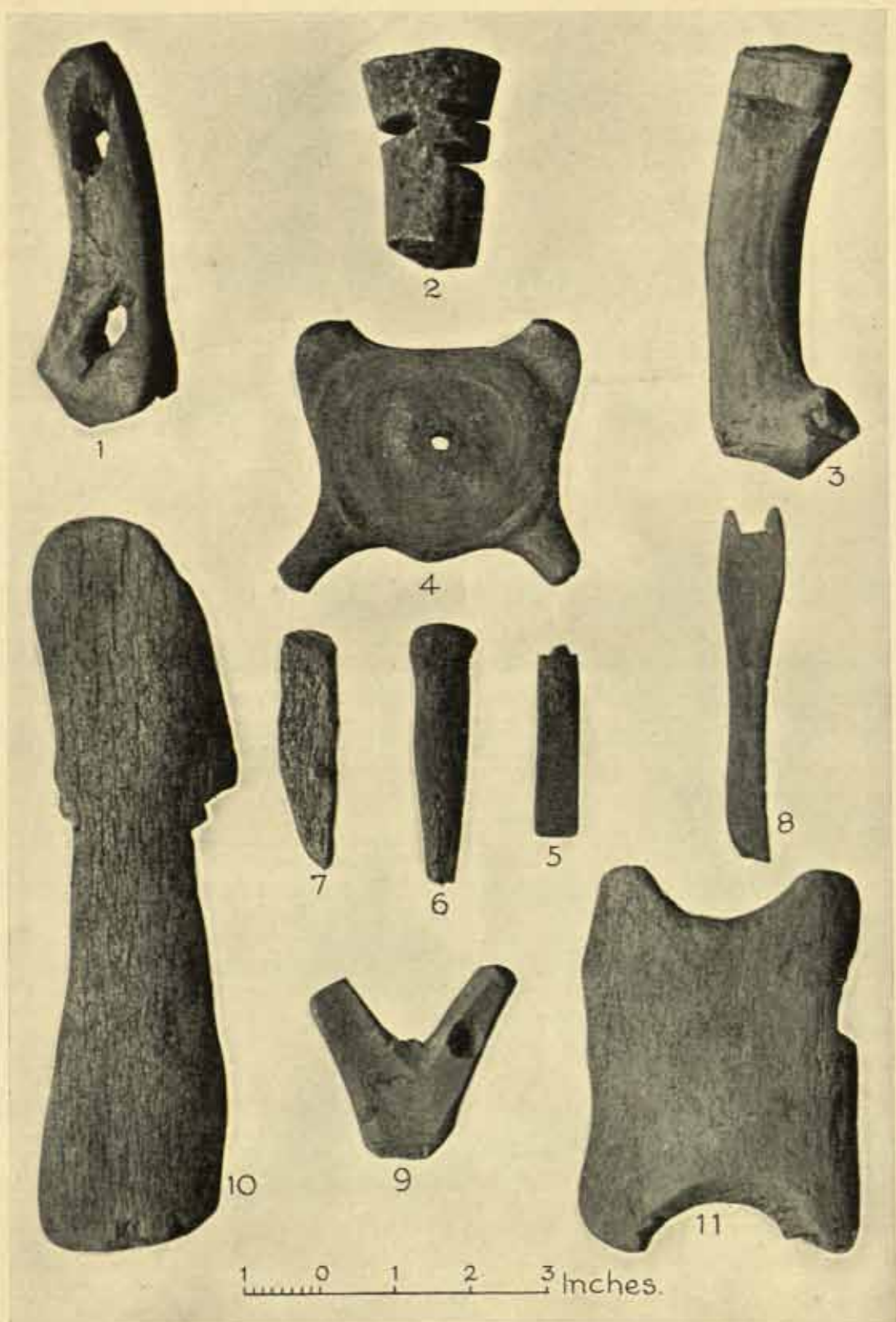


Fig. 12. Objects of Cetacean Bone and Deer-horn from Bac Mhic Connain.

V-shaped object of deer-horn, the longer arm measuring 3 inches

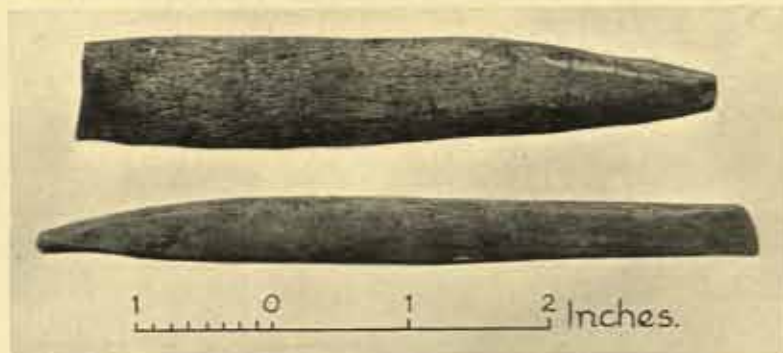


Fig. 13. Implements of Cetacean Bone from Bac Mhic Connain.

in length, both limbs roughly squared, and showing a cavity bored in the longer member (fig. 12, No. 9).

Two metatarsal bones of sheep, measuring $4\frac{1}{8}$ inches and $3\frac{7}{8}$ inches in length, with a perforation through the centre of the shank (fig. 18).

Two implements of cetacean bone (fig. 13), the first measuring $5\frac{3}{16}$ inches in length, one end rounded and the other of chisel shape, and the second measuring $4\frac{5}{8}$ inches in length, tapering towards a blunt punch-like point at one end.

Ornament of cetacean bone (fig. 14), measuring $3\frac{3}{4}$ inches in length, in the shape of an open triangle with a ring at the top. Where the lower part of the ring meets the apex of the triangle is an oblique ridge simulating the familiar trumpet-shaped terminals seen on Early Iron Age bronze ornaments. On either side of the base of the triangle is a circular projection, and, underneath, a groove for attachment to some other object.



Fig. 14. Cetacean Bone Ornament from Bac Mhic Connain. (1.)

Pear-shaped object of cetacean bone (fig. 15, No. 1), measuring $1\frac{5}{8}$ inch by $\frac{3}{16}$ inch, with two countersunk perforations, and an incised triangle between them on one side.

Perforated triangular ornament of cetacean bone (fig. 15, No. 2), measuring 1 inch by $\frac{1}{2}$ inch.

Small conical pendant of deer-horn (fig. 15, No. 3), measuring $1\frac{3}{16}$ inch in length, with a perforation at the narrow end.

Conical stamp of cetacean bone (fig. 15, No. 4), measuring $1\frac{1}{2}$ inch in

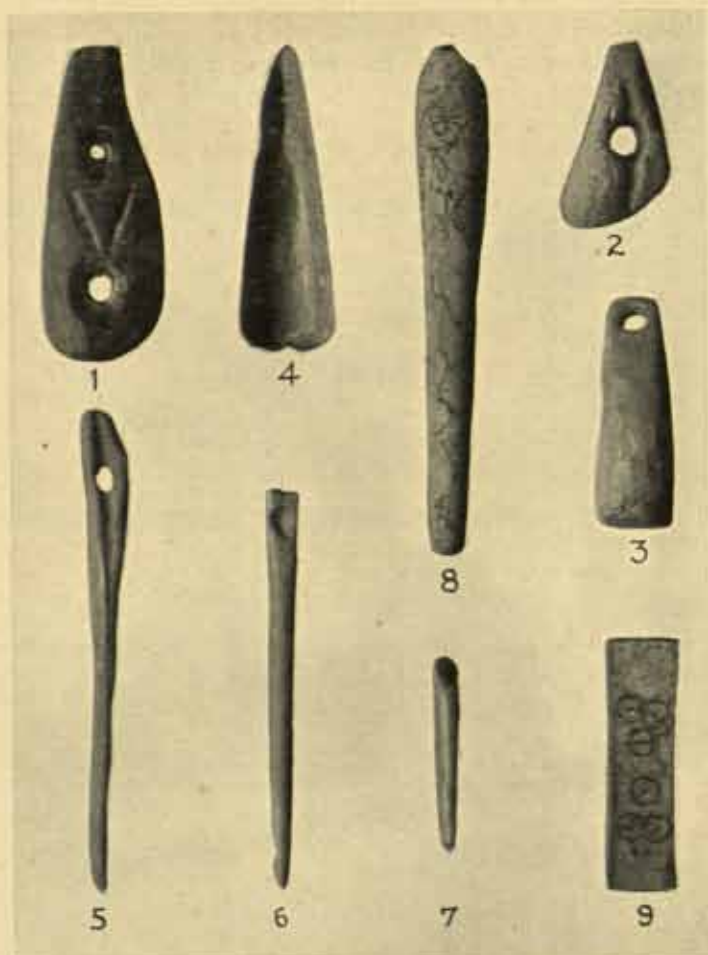


Fig. 15. Objects of Bone from Bac Mhic Connain. (†.)

length, with two grooves cut at right angles on the base to form a cross.

Two bone needles, measuring $2\frac{1}{2}$ inches and 2 inches in length, the second having been broken at the eye and a beginning having been made to drill another from either side (fig. 15, Nos. 5 and 6).

Small bone pin (fig. 15, No. 7), measuring $\frac{3}{8}$ inch in length, carefully made and cut off obliquely at the broad end.

Die of bone (fig. 15, No. 9), measuring $1\frac{5}{16}$ inch by $\frac{3}{8}$ inch by $\frac{3}{8}$ inch, with three, four, five, and six dot and circle designs on the four sides.

Spatulate implement of cetacean bone, measuring $9\frac{9}{16}$ inches in length, the under side of the point worn smooth by rubbing. One side of the object shows a hollow curve for the greater part of its length, and the other contracts in two steps to form the handle (fig. 12, No. 10).

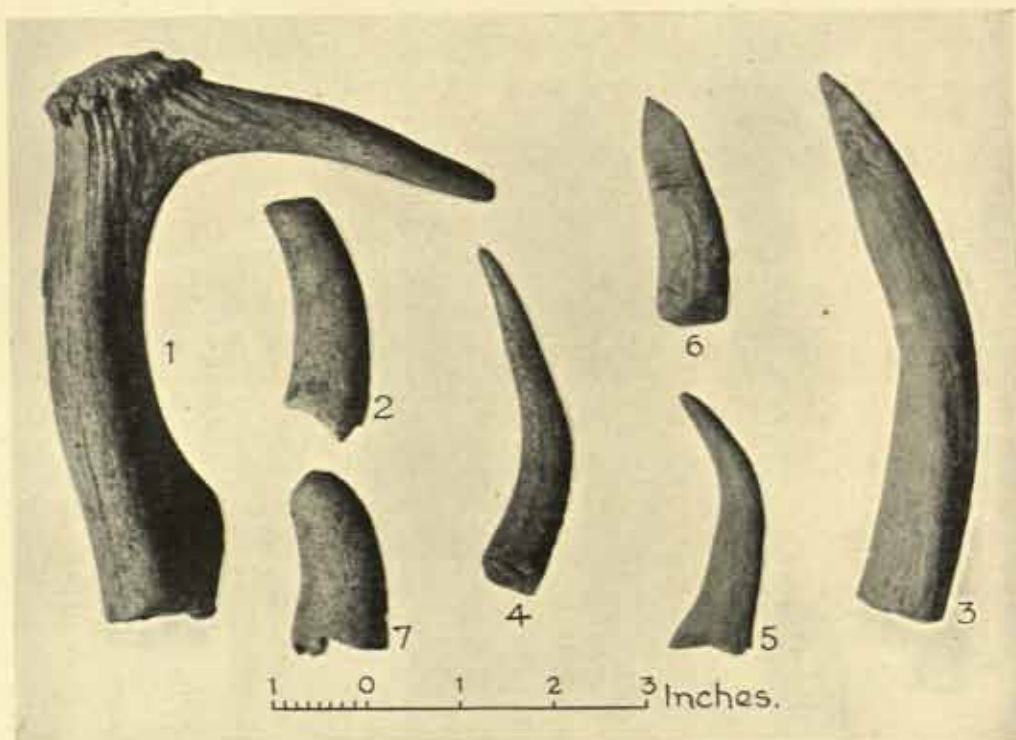


Fig. 16. Pick and Pointed Tines of Deer-horn and part of a Tooth of Morse Ivory from Bac Mhic Connain.

Dorsal bone of a cetacean.

Dorsal plate of a cetacean, with a perforation in the centre, measuring 5 inches in greatest diameter (fig. 12, No. 4).

Oblong plate of cetacean bone, with concave ends, measuring 5 inches in length and $3\frac{1}{8}$ inches in breadth (fig. 12, No. 11).

Pick of deer-horn, measuring $5\frac{7}{8}$ inches in length, showing a greenish stain at the point of the tine (fig. 16, No. 1).

Point of a tine, measuring $2\frac{1}{2}$ inches in length, the tip worn flat by rubbing, and broken off at the broad end (fig. 16, No. 2).

Tine, measuring $5\frac{3}{4}$ inches in length, sharpened at the point, and showing a shallow, conical socket at the broad end (fig. 16, No. 3).

Three points of tines, measuring $2\frac{7}{16}$ inches, $2\frac{1}{8}$ inches, and $3\frac{5}{8}$ inches in length, sharpened at the tips (fig. 16, Nos. 4 to 6).

Tip of a tooth (morse ivory), measuring $1\frac{7}{8}$ inch in length, sawn across the broad end where there is a shallow, bored socket, the point showing evidence of rubbing (fig. 16, No. 7).

Pin-head of bone of flattened spheroidal form, flat on the under side, with a large, oval, transverse perforation and a smaller one on the under side, showing the remains of the iron pin to which it was attached, measuring 1 inch in greatest diameter and $\frac{3}{4}$ inch in height.

Piece of the leg bone of a sheep, measuring $2\frac{13}{16}$ inches in length, splintered at the middle, and showing a green stain.

Thin rectangular plate of deer-horn, measuring $2\frac{1}{2}$ inches by $1\frac{1}{2}$ inch, sawn across both ends, and fragment of another, splintered at one end, measuring $4\frac{3}{8}$ inches in length.

Four small squared blocks of cetacean bone, measuring $1\frac{11}{16}$ inch, $1\frac{7}{16}$ inch, $1\frac{1}{4}$ inch, and $1\frac{5}{16}$ inch in length.

Three fragments of cetacean bone with cut marks.

Bone of a large bird carefully cut across both ends, measuring $9\frac{1}{16}$ inches in length; and part of another, measuring $1\frac{1}{2}$ inch in length, ground at one end.

Besides these, seventy bones showing cuts, one hundred and thirty pieces of deer-horn, seventy fragments of cetacean bone (including a dorsal plate of a whale, $9\frac{1}{2}$ inches in diameter), five large vertebrae of whales cut to form seats, and a large slab measuring 2 feet 6 inches long, from 7 inches to 9 inches broad, and 2 inches thick, and a boar's tusk, were recovered.

POTTERY.

Small fragment of the rim of a bowl of Samian ware.

Three discs made from shards of hand-made pottery, ground round the edge to circular or sub-oval shape and measuring $1\frac{3}{8}$ inch, $2\frac{1}{4}$ inches, and $2\frac{3}{4}$ inches in diameter.

Disc of yellow clay, burnt hard and perforated eccentrically, measuring $2\frac{7}{16}$ inches by $2\frac{1}{8}$ inches in cross diameters.

Six crucibles of clay, with triangular mouths, the bottoms fused by heat (fig. 17, Nos. 1-5). Three are complete and another nearly so, the remaining two being represented by a piece of the wall and by a basal fragment. The measurements of the height and the width of the mouth of the first four are $2\frac{1}{8}$ inches by $1\frac{3}{4}$ inch, $1\frac{5}{16}$ inch by $1\frac{3}{8}$ inch, $1\frac{3}{16}$ inch by $1\frac{5}{16}$ inch, and $1\frac{1}{2}$ inch by $1\frac{5}{16}$ inch.

Half of a clay mould for casting a triangular ornament with a circular ring at each angle, measuring $1\frac{9}{32}$ inch in diameter (fig. 17, No. 6). The runner and two projections for keying it to the other half survive.

Part of a clay mould for casting a flat ring about $2\frac{1}{4}$ inches in diameter, one of the key projections surviving (fig. 17, No. 7).

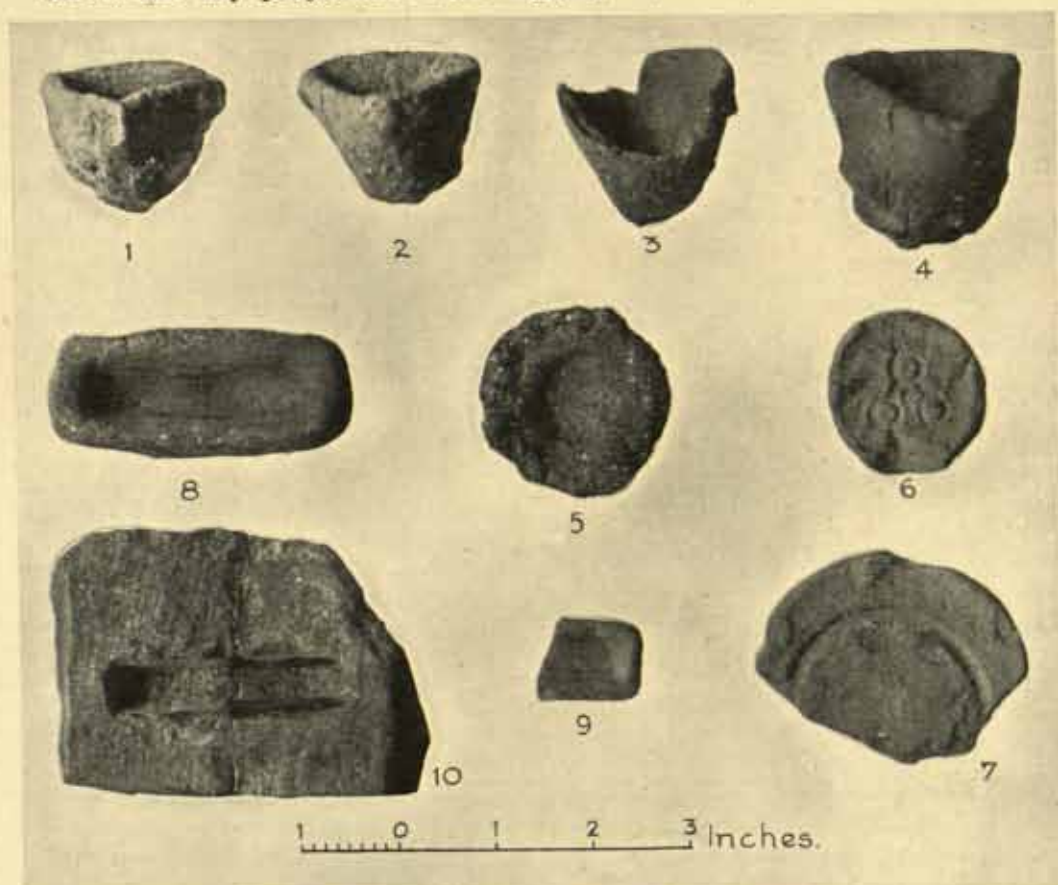


Fig. 17. Crucibles and Moulds from Bac Mhic Connain.

Oblong clay mould, measuring $3\frac{1}{8}$ inches by $1\frac{9}{32}$ inch by $\frac{31}{32}$ inch, for casting a bar or ingot, and part of another mould of similar character (fig. 17, Nos. 8 and 9).

About one-third of a carefully made flat disc of pottery with a perforation in the centre. It has been $7\frac{1}{4}$ inches in diameter and is $\frac{1}{8}$ inch thick.

Five small wall fragments of hand-made vessels of red, brown, and grey clay, each encircled with an applied wavy or zigzag moulding.

Small wall fragment of a vessel of red ware with a horizontal applied narrow band, with notches in it about seven to the inch.

Small wall fragment of a vessel decorated with a horizontal, applied, high, narrow, semicircular moulding from which springs a wavy or zigzag pattern.

Three rim fragments of brown and red vessels, two everted at the lip and one nearly vertical at the brim. One has a transverse groove on the inside 2 inches below the lip, and another a similar groove $\frac{7}{8}$ inch below the brim.

Two basal fragments of vessels, the larger measuring $3\frac{1}{4}$ inches across the base.

Vessel of ovoid shape, imperfect at the lip, of buff-coloured ware, the upper part being blackened (fig. 3). It measures 13 inches in present height, $10\frac{1}{8}$ inches in greatest diameter, and $3\frac{1}{4}$ inches across the base, the wall being $\frac{7}{16}$ inch thick.

About one hundred and fifty more shards were found, of which about one in four bore applied wavy or zigzag ornamentation.

Although the number of pieces of pottery received into the Museum forms a very small proportion of those found, it is quite clear that the vessels from this site must have been similar in general form and ornamentation to those found at Foshigarry and on other earth-house and kitchen-midden sites in the outer Hebrides.¹ The only vessel which was recovered in a fairly complete condition was the large oviform pot shown in fig. 3.

The proximity of the earth-houses at Garry Iochdrach and Bac Mhic Connain to those at Foshigarry, described in last year's *Proceedings*—they lie about two and a quarter miles apart—invites comparison, both as regards structure and relics found. All the radial cells in the western chamber at Bac Mhic Connain seem to have had domed roofs, and Mr Beveridge considered that the eastern detached chamber at Foshigarry had had a similar covering. This form of roofing is to be seen in the outer buildings in the broch of Jarlshof in Shetland. In these cases the radial walls were bonded into the outer enclosing wall. But in Garry Iochdrach and in the two intercommunicating larger chambers at Foshigarry, as in other circular earth-houses in this part of North Uist excavated by Mr Beveridge, the radial divisional walls stopped short of the enclosing wall, in which there were no signs of inward corbelling. From this it was deduced that the cells were roofed with lintels resting on the divisional walls as in the partly subterranean "wags" or galleried buildings of Caithness.

¹ See my report on the relics found at Foshigarry in *Proceedings*, vol. lxxv. pp. 342 ff.

Like the buildings at Foshigarry, the earth-houses at Garry Iochdrach and Bac Mhic Connain had a regular system of drains under the floor, and box-like receptacles.

A new feature encountered at Bac Mhic Connain was the structure supposed to have been a furnace for the melting of metals. If further evidence were necessary to prove that the working of these materials was one of the crafts carried on here, there are crucibles, moulds of clay and stone, and pieces of iron slag. The crucibles and the moulds of clay at least were no doubt used in the manufacture of bronze objects. Crucibles like those found at Bac Mhic Connain, with a triangular mouth and a conical base, have been found in the fort on Traprain Law, and in the vitrified fort, the Mote of Mark, in the Stewartry of Kirkcudbright.

An examination of the relics unearthed shows that long-handled combs, awls, and borers, of cetacean and other bone, worked tines and other portions of antlers of red-deer, hammer-stones, pot-lids and strike-a-lights of stone, pieces of pumice showing signs of rubbing, crucibles, slag, and pottery of the same kind, were found in all three earth-houses. Hammers and dorsal plates of cetacean bone, and cylindrical objects encircled with oblique grooves formed by friction (fig. 4, Nos. 2-4),¹ dice, needles, harpoons or spears, and handles of implements ornamented with dot and circle designs, of bone, were common to Bac Mhic Connain and Foshigarry, and small-toothed combs, whistle-like objects of deer-horn, and whorls to Garry Iochdrach and Foshigarry. Roman relics were discovered in Bac Mhic Connain and Garry Iochdrach, a small piece of Samian ware being recovered from the former site, and a coin of the fourth century from the latter.

Although, as we have seen, Bac Mhic Connain has produced many types of relics similar to those found at Foshigarry, the large notched implements formed of ribs of whales which were one of the outstanding features of the collection from that site,² are entirely absent, the nearest approach to them being the large spatulate implement with a rounded point worn on the underside like those from Foshigarry, but with a constricted handle without notches (fig. 12, No. 10). Nothing resembling them was found at Garry Iochdrach. Evidently these implements were used for some special industry which was carried on at Foshigarry and in none of the earth-houses so far excavated in the neighbourhood.

Quite a number of objects of exceptional interest were found at Bac Mhic Connain. These include the hollowed segment of an antler

¹ See also *Proceedings*, vol. lxx. p. 330, fig. 13.

² *Ibid.*, vol. lxx. pp. 307-9.

with deep broad cuts on opposite sides (fig. 12, No. 2), the two-pronged implement (fig. 12, No. 8), the V-shaped object (fig. 12, No. 9), the stamp (fig. 15, No. 4), the triangular ornament with the ring at the apex (fig. 14), and the knife-haft with the Ogham inscription, of cetacean bone, which so far as I am aware are new to Scottish archaeology. No explanation as to the purpose of the first three of these relics has been forthcoming. As for the stamp, it is difficult to conceive any other use for it than for stamping decorative designs on pottery, but no ware showing the pattern that it would produce has yet been recorded on the innumerable shards found on Hebridean sites of its period. Although

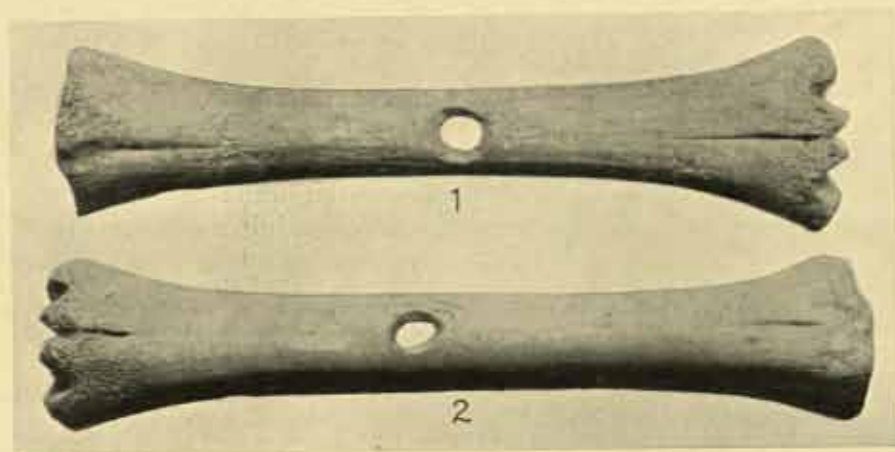


Fig. 18. Perforated Metatarsal Bones of Sheep from Bac Mhic Connain. (†.)

the triangular bone ornament is the only example of its kind recorded, its double is to be found in an ornament of bronze of almost similar shape and size, which was discovered in the Lochlee Crannog, Ayrshire.¹ This object has even the transverse slit on the underside of the base, but, in addition, has a pin-hole for more secure attachment. The mouldings at the junction of the ring and the triangle in the bone ornament show an attempt to reproduce in bone the trumpet-shaped curves so characteristic of Scottish Early Iron Age ornaments, the so-called Late Celtic designs, but the craftsman who carved the object, whether from want of skill or because of the intractability of the material, had not been able to reproduce the fine curves of the bronze ornaments.

The bone die adds another to the growing list from earth-houses and brochs.²

¹ Manro, *Ancient Scottish Lake-Dwellings*, p. 132, fig. 147.

² *Proceedings*, vol. lxxv. p. 354.

Two metatarsal bones of sheep with a perforation in the centre of the shank were found at Bac Mhic Connain (fig. 18), but although we have to confess that their purpose is not apparent, such objects have been found on widely separated sites in Scotland inhabited during the time



Fig. 19. Perforated Bone from Tota Dunaig, Vallay, North Uist. (†.)

of the earth-houses. Single examples were found in the Borness Cave, Stewartry of Kirkcudbright, in the extreme south of Scotland, in the Roman fort at Mumrills, in central Scotland, in the Elsay Broch and Road Broch, in Caithness, in the brochs of Lamaness and Aikerness, in Orkney, and in a kitchen-midden, probably adjoining an earth-house, at Bragar, in Lewis, in the extreme north and north-west of the country. A small example made from a bone of a sheep was discovered in an underground structure at Tota Dunaig, Vallay, North Uist (fig. 19).

II.

SHORT CISTS AT RUMGALLY, FIFE. BY J. TENNANT
GORDON, O.B.E., J.P., F.S.A.Scot.

On 28th April 1931, while workmen were engaged planting potatoes in "The Lodge" field on the farm of Rungally, parish of Kemback, and about 3 miles from Cupar-Fife, owned and occupied by Mr Charles A. Roger, a driller came in contact with a large stone. Steps were taken to uncover this, but on removing the soil it was found there were other stones forming a cist. The grave was placed on the top of a gravelly knoll on undulating ground, with other knolls in different parts of the field. The site lay 373 yards 89° E. of N. of Rungally House.

The cist measured internally 3 feet 7 inches long, 21 inches broad at the south end and 30 inches at the north end, its main axis lying about 2° east of true north and west of true south. The slabs were of free-stone, probably brought from the well-known strata at Dura Den, some 800 yards distant. The side stones were in parts 12 inches and 10 inches thick respectively, with a depth of 27 inches and 24 inches, and must have weighed 4 to 5 cwts. each. The stone at the north end was 3½ inches thick and that at the south end 4½ inches. There was no cover on the cist and no stone bottom. The contents were found to be gravel and rough sand. About 18 inches down from the top of the side stones the workman came upon the remains of a human skeleton, consisting of leg and arm bones, parts of the vertebral column, pieces of upper and lower jaws with several teeth, and various fragments of other bones. Portions of a skull were also found, but they crumbled away when handled. On discovering these the workman reported the find to his master, who intimated the fact to the police. A further careful search was made, when an urn (fig. 1) was found embedded in the gravel alongside the bones, and an end scraper of grey flint measuring 1½ inch in length (fig. 2, No. 1). The urn was lying on its side close to the east side of the cist and with its mouth inwards, and was found empty.

The urn, which is of the food-vessel type, is in a perfect state of preservation, and has an unusually long upper part. Formed of brown clay, it has a straight brim and a tapering lower part with a slight moulding at the shoulder. It measures 6 inches in height, 5½ inches in external diameter at the mouth, 6 inches at the shoulder, and 3¼ inches across the base. The top of the lip, which is undecorated and measures ½ inch in breadth, is slightly bevelled towards the inside. The whole of the wall to within a short distance of the base is decorated with

horizontal rows of rouletted and stamped lines, and the outside of the rim and the shoulder by oblique rouletted lines, all impressed while the clay was wet.

Two days later, on 30th April 1931, another cist was found about 6 yards west of the above described. It was lying about south-west by west and north-east by east. There was no stone cover upon it, and the inside measurements were 42 inches in length by 21 inches in width



Fig. 1. Food-vessel found at Rungally, Fife.



Fig. 2. Flint Scraper and Knife from Cists at Rungally, Fife. (1.)

and about 27 inches in depth. The slabs forming the sides of the cist were of freestone, evidently also from Dura Den, and somewhat larger than those in the first cist, the stone on the north side being 14 inches in thickness in parts and 24 inches deep. There were no bones or urns in the grave, but a very fine specimen of a knife of yellow flint finely dressed on one face and plain on the other, measuring $1\frac{1}{2}$ inch in length, was found (fig. 2, No. 2).

Both cists were probed for a considerable distance below the bottom without any sign of further structures being encountered.

It is gratifying to record that Mr Roger has with great goodwill handed over the urn, scraper, and knife to the Society.

III.

NOTES ON (1) A TWO-STOREYED GRAVE AT LITTLE ASTA, SHETLAND; (2) CERTAIN PREHISTORIC RELICS FROM SHETLAND; AND (3) A VIKING BROOCH OF SILVER FROM SKAILL BAY, ORKNEY. BY J. M. CORRIE, F.S.A.Scot.

1. TWO-STOREYED GRAVE AT LITTLE ASTA, SHETLAND.

During the summer months of this year a party of workmen under the charge of Mr Andrew Hall, road foreman, Westerhoull, Scalloway, was engaged in quarrying for road metal on the east side of the public road not far from Little Asta, in the parish of Tingwall, Shetland, and on Tuesday, 2nd June, they came upon an interesting two-storeyed grave constructed of slabs of stone. As soon as he realised that a cist had been disclosed, Mr Hall, with commendable restraint, decided to leave the construction undisturbed until a careful examination of the structure could be made. By a fortunate coincidence Mr G. V. Wilson, F.S.A.Scot., of H.M. Geological Survey of Scotland, happened to pass soon after, and he was appealed to for guidance. Mr Wilson at once undertook to notify the Director of the National Museum of Antiquities by wire, and he arranged with Mr Hall to have the grave provisionally protected. On receipt of the telegram Mr Callander advised me to get into touch with Mr Wilson, and I had the privilege the following day of being associated with him and his assistant, Mr Strachan, in making a careful examination of the grave.

The district in which the discovery was made is, from an archæological point of view, one of particular interest. It is believed that in former years other cists have been discovered at various places in the neighbourhood, but unfortunately no record of these finds seems to have survived. Several constructions, however, still remain in the vicinity to testify to the occupation of the district in early times. Barely a mile to the southwards from the grave is a large but much-broken mound, popularly called the Soldier's Knowe, and only a short distance to the northwards, at the south end of the Loch of Asta, is one of the most complete mounds to be seen in Shetland. Farther north again is a fine standing stone, the Law Ting Holm, and a group of interesting mounds at Grista.

The Little Asta burial (fig. 1) was deposited at an elevation of 50 feet above sea-level, but there was no superincumbent mound or cairn to mark the position of the interment. This was located in forced soil mixed with rotten rock at a depth of from 3 feet 4 inches to 3 feet 6 inches below the present surface of the ground. It seems likely that a

supporting slab for the large cover-stone (A in figs. 1 and 2) had been removed before its real significance was noticed, for it was not until

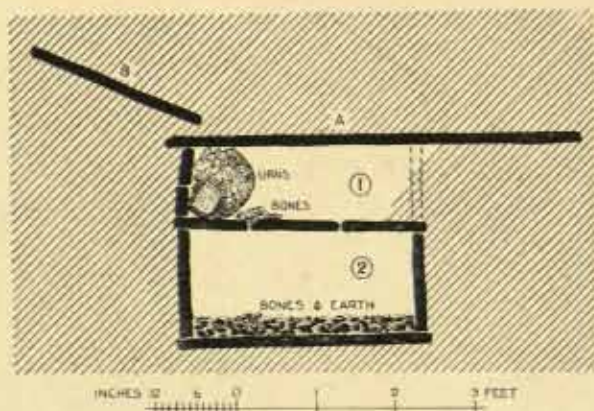


Fig. 1. Section of Two-storeyed Cist at Little Asta, Tingwall, Shetland.

Mr Hall had examined the cavity and found the fragments of an urn and some decayed human remains that the real nature of the con-

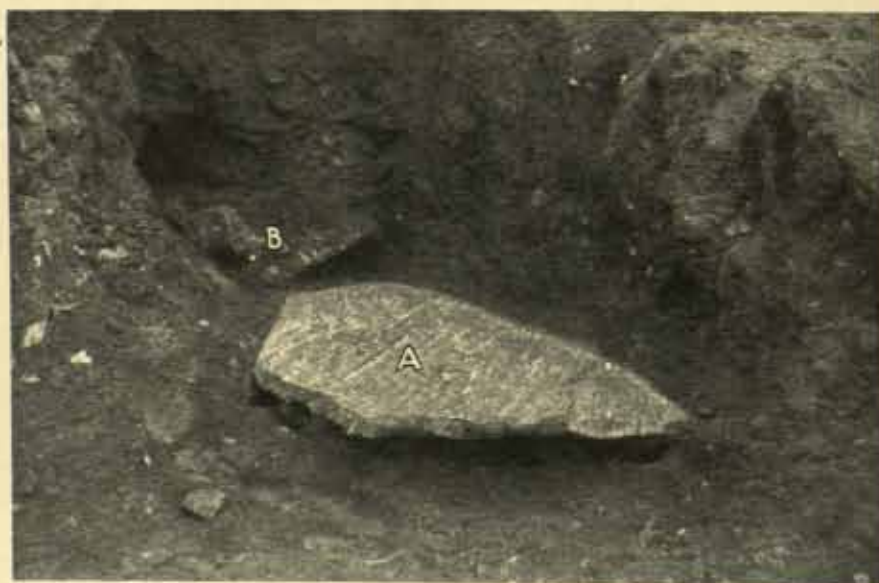


Fig. 2. Cover-stone, Upper Compartment of Grave at Little Asta.

struction was realised. Mr Hall tells me, indeed, that there appeared to have been a slab of limestone at the south end of the upper compartment of the grave, but it had rotted away, and was in such a friable

A TWO-STOREYED GRAVE AT LITTLE ASTA, SHETLAND. 71

condition that it was hardly recognisable from the other disintegrated rock of the quarry.

The first procedure was carefully to remove the earth from the covering slab, and, when this had been done, to photograph the construction with the stone in position. Fig. 2 shows the grave as then disclosed. It lay with the major axis north and south. The covering slab was found to be a fine large piece of imported schist of irregular form, measuring 5 feet 2½ inches in length. At its northern extremity it measured only 17 inches in width, but at its widest it was 2 feet 10 inches in breadth, and 1½ inch to 1¾ inch in thickness. At two points on the west side it had been tooled at the edges to provide two small but carefully made notches. It is not very clear for what purpose these had been intended. They may possibly have been associated with the lifting or transportation of the stone.¹

On removing the covering slab it was at once apparent that at some former time the grave had been, perhaps unknowingly, disturbed. It will be seen that there was another slab (B in figs. 1, 2, and 3) overhanging the cover-stone at the north end of the cist. This measured 2 feet 3 inches in length by 1 foot 8½ inches in width and 1¼ inch in thickness. It had roughly trimmed edges, and had clearly formed a part of the original structure although it was obviously not in its true position. Its proper setting could not be definitely determined, but later investigation showed that there was no support for the cover-stone on the east side of the grave, and it may be that this slab came from there. This is all the more likely in view of the fact that the east side of the construction practically encroached upon the ditch of a former line of roadway, where disturbance was likely to be frequent. The north end of the cavity (No. 1 in fig. 1), which measured about 1 foot in depth, seemed to have been roughly constructed. Here there was only some loose packing, and this, in part, had given way. Two urns without contents of any description, and some much-decayed human remains, were found at the north end of the cavity resting on a slab of stone which formed part of the covering for the lower compartment of the grave. The larger urn was broken into fragments, and it cannot on that account be definitely stated whether the smaller urn had originally been enclosed within it or simply deposited alongside it. Two small fragments of the cap of a skull showing an eye ridge and very open sutures served to indicate that the burial had been that of a young person.

In the bottom of the cavity three irregularly shaped slabs, measuring

¹ A similar feature has been noted in another two-storeyed grave at Newbigging, near Kirkwall, Orkney (*Proceedings*, vol. vi. p. 411 and pl. xxiv.). It has been observed also in Northumberland (Greenwell's *British Barrows*, p. 418).

respectively $10\frac{1}{2}$ inches, 14 inches, and 13 inches in width, were laid horizontally, one against the other, to form the covering for a carefully constructed lower compartment or cist (No. 2 in fig. 1 and fig. 3), which measured 2 feet 10 inches in length, 1 foot 4 inches in width at the north end and 1 foot 7 inches at the south end, and 1 foot 5 inches deep at the north end and 1 foot 3 inches at the south end, the main axis again lying exactly geographical north and south. This cist was provided also with a thin slab for a floor. Fig. 3 shows the compartment as finally exposed.



Fig. 3. Lower Compartment of Grave at Little Asta, Tingwall, Shetland.

It was found to be partially filled with earth and a mixture of burnt and unburnt bones, the burnt remains being those of an adult and the unburnt remains those of an infant. The calcined remains had evidently been well fired, and pieces of vitrified material—known in Orkney and Shetland as “cramp”¹—still adhered closely to them. When found, intermixed with earth, they had a glutinous or pulpy feeling in the hand.

It is unfortunate that the urns (figs. 4 and 5) were broken, but most of the fragments were recovered, and it has been found possible to reconstruct the vessels. Both were made from an open-grained and easily fractured micaceous steatite. The larger of the two (fig. 4) is bowl-shaped, with the mouth nearly circular, and it measures externally 11 inches in

¹ On this substance, see *Proceedings*, vol. lxi, p. 286.

diameter at its mouth, $11\frac{3}{4}$ inches at the widest part of the wall, from 7 inches to $7\frac{1}{4}$ inches across the base, and from $8\frac{3}{4}$ inches to 9 inches in



Fig. 4. Steatite Urn from Grave at Little Asta.

height. The walls are $1\frac{1}{8}$ inch in thickness. The smaller vessel (fig. 5) is of rectangular shape, measuring $4\frac{1}{2}$ inches by $4\frac{3}{8}$ inches across the mouth, 4 inches by $3\frac{1}{2}$ inches across the base, and from 3 inches to $3\frac{1}{4}$ inches in height. The walls vary from $\frac{7}{16}$ inch to $\frac{8}{16}$ inch in thickness.

A day or two later a small, flat, water-worn pebble, measuring $2\frac{1}{2}$ inches by $1\frac{1}{8}$ inch by $\frac{1}{2}$ inch, abraded at both ends and showing signs of polishing on the flat faces, was turned up only a few feet from the north end of the grave, but no other relics have been recovered.

So far as I have been able to ascertain, this is the first occasion on which a grave of the two-storeyed type has been recorded for the Shetland Islands, but examples are not unknown in other districts of northern Scotland. At least four instances



Fig. 5. Steatite Urn from Grave at Little Asta.

in Orkney—one in Stronsay,¹ one at Newbigging,² one at Crantit, near Kirkwall,³ and another at Backakeldy in the parish of Holm⁴—have been recorded in the *Proceedings* of the Society, and Mr Edwards has also described two, of larger dimensions, disclosed by him in his excavations at Ackergill in Caithness.⁵

At Stronsay Mr Petrie found what was actually a three-storeyed grave, the upper portion of which was filled with dry peat moss, in which lay a small piece of rock crystal (probably an amulet or charm), but nothing else. This small cist or compartment had been constructed on the covering stone of a larger cist, which contained some fragments of burnt bones and ashes. During a later examination another small compartment or cist was located beneath the larger one. On the bottom stone of this lower compartment a quantity of clay had been laid, and a bowl-shaped cavity made in the centre of the clay. The cavity had been nearly filled with burnt bones and then covered by a piece of clay slate dressed into a circular form. More clay had then been placed in the cist to a depth of about a couple of inches and another cavity formed in it, leaving an inch or two of the centre of the circular piece of slate exposed. There was no deposit of bones or ashes in this upper division of the cist.

At Newbigging Mr Petrie found the upper compartment empty, but the lower compartment contained a quantity of ashes and two human skeletons—one at each end—in a flexed or contracted posture. The skeletons were those of adults past middle age.

At Crantit Mr Cursiter again found the upper compartment empty, but in the lower compartment he discovered a quantity of calcined human bones and the skeleton (also in a flexed position) of a young person of about fifteen years. Beside these remains there was a perforated implement of deer's horn.

At Backakeldy Dr Marwick recorded a couple of very rude stone implements found in the upper chamber, and in the lower chamber a heap of calcined bones and the unburnt skeleton of an adult female in a flexed posture.

In one of the two examples at Ackergill Mr Edwards found in the upper chamber the skeleton of a young child in an extended posture, and in the lower chamber the skeleton of an adult female also in an extended position. In this instance he suggests that the upper burial was possibly secondary. In the other Ackergill example the upper compartment contained sand only, but the lower cavity was occupied by the fully extended skeleton of a man.

It is of interest to compare these details with what we have observed

¹ *Proceedings*, vol. viii. pt. ii. pp. 347 ff.

² *Ibid.*, vol. xlv. pp. 215-7.

³ *Ibid.*, vol. lx. pp. 160-82.

⁴ *Ibid.*, vol. vi. pp. 411 ff.

⁵ *Ibid.*, vol. lxii. p. 265.

in Shetland. It must surely be more than mere coincidence that three of the Orkney examples and the Little Asta burial should all have been found to contain both burnt and unburnt human remains, and that in two of the instances quoted in addition to the Shetland example the unburnt bones represented the remains of a very young person. In one respect—the fact that urns accompanied the interment—the Little Asta burial stands by itself, and it is much to be regretted that the investigation revealed nothing whereby it could be precisely dated.

The best thanks of the Society are due to Mr Hall, not only for the care and enthusiasm he displayed in connection with the discovery, but for his kindness in presenting the urns to the National Museum.

Professor Alexander Low, M.D., F.S.A.Scot., who has examined the human remains, reports that the bones from the upper compartment of the grave are the very fragmentary remains of the skeleton of an individual about twenty years of age, and consist of imperfect parietal bones, the orbital margin of a right frontal bone, 4 inches of upper extremity of right humerus, very much eroded middle thirds of the right and left femur, and the lower end of a right femur.

Those from the lower compartment consist of the cremated remains of an adult human skeleton. These have been very thoroughly calcined, and many of the fragments are embedded in masses of vitrified-like material, probably produced by the intense heat acting on the surrounding soil.

Amongst the many fragments of calcined bones it is possible to recognise as human *small pieces* of the following bones: flat bones of skull, shoulder blade, arm bones, ribs, lower end of thigh bone, and several bones of foot. These are very fragmentary, and no duplicate pieces are recognised.

In addition to the above there are five fragments of the unburned skeleton of an infant of perhaps three to four years of age, pieces of parietal bone and of a temporal bone, and small pubic bone. Evidently the unburned body of an infant had been buried along with the cremated remains of the adult.

It is of interest to note that in a short cist at Auchlin, Aberdour, Aberdeenshire,¹ the unburned remains of a young child of about five years of age were associated with a burial by cremation.

2. PREHISTORIC RELICS FROM SHETLAND.

The Shetland relics which I have to describe came under my notice during the last two summers while I was engaged on a survey of the islands for the Royal Commission on the Ancient and Historical

¹ Alex. Low, *Proc. of the Anat. and Anthropol. Soc. of the Univ. of Aberdeen*, 1904-6, p. 126.

Monuments of Scotland, and I am indebted to the finders and owners for allowing me to place the objects upon record. It is now many years since a paper dealing in any way with the portable antiquities of the Shetland Islands has been contributed to the Society, but this does not mean that the area, about which the late Mr Gilbert Goudie, Mr Bruce of Sumburgh, Mr Irvine, Mr Spence, and others have recorded so much, has ceased to be of interest to the archæologist, the historian, or philologist. On the contrary, many interesting finds have been made by enthusiastic observers, and public interest in antiquarian matters continues to flourish.

In Lerwick, for example, a restart for a local museum has been begun in one of the rooms of the Town Hall buildings, and many interesting exhibits are already on view. The nucleus for the collection was acquired by public subscription from the trustees of the late James M. Goudie, a former Provost of the Burgh. Two classes of relics, the axes and adzes and the thin polished implements of stone known as Shetland knives or Pechts' knives, are particularly well represented, but it is somewhat unfortunate that several very fine specimens are without precise localities. These objects, indeed, form one of the special features among Shetland's prehistoric antiquities.

Axes and Adzes.—The stone axe culture appears to have been developed in these islands to a remarkable degree of perfection, for the area has yielded an unusually large number of particularly fine and beautifully polished examples of large size, and, in many cases also, of a fully developed adze-like form. Many of the axes are from 10 inches to 14 inches in length, and not infrequently have expanded cutting edges like flat bronze axes. There seems to have been little or no restriction as to the nature of the stone used, as we find specimens made from materials which vary greatly both as regards texture and colouring. A close-grained, dark-coloured stone of a porphyritic character has frequently been used, but others have been fashioned from green serpentine or from a dark buff-coloured or light-grey coloured material. There are in all thirty-three specimens in the Lerwick collection, and throughout the islands I have seen many others in private possession. On fig. 6 are shown four of the finest examples of adze form. No. 1 came from Setter in Tingwall Parish; No. 2 from Taipwell in Whalsay; No. 3 from Break of Mews, Bigtown; and No. 4 has no locality. There is a complete absence in this collection of flat-edged examples.

A particularly neat little specimen of a polished serpentine axe with flat edges, the property of Mr E. S. Reid Tait, one of our Fellows, has, however, been kindly lent for exhibition (fig. 7). It measures $2\frac{5}{16}$ inches by $1\frac{1}{16}$ inch by $\frac{5}{16}$ inch, and was found near Mailland, in the

Whiteness area of the parish of Tingwall. It is specially interesting on account of its high finish and the unusually straight cutting edge.

Polished Stone Knives.—These objects are peculiar to the Shetland Islands. They are flat, irregularly oval-shaped blades, ground to a

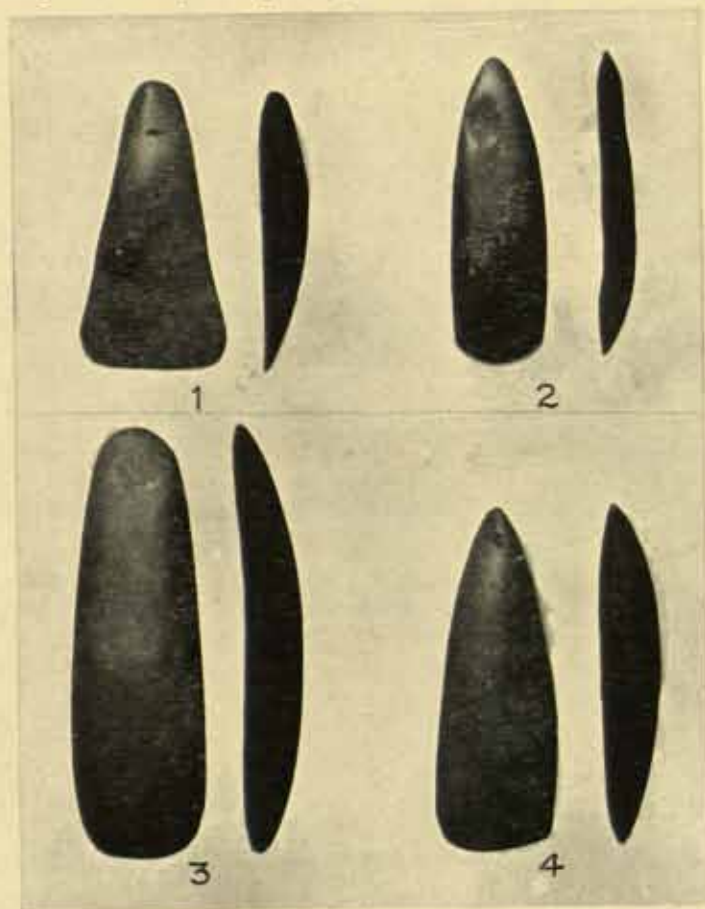


Fig. 6. Stone Adzes in Lerwick Town Hall Collection.

smooth, highly polished surface on their thin, flat faces, and with sharp edges, sometimes continued round the whole circumference, sometimes with slightly thickened or blunted backs. They show the same variations as regards size and material as do the axes, and they also have been found throughout the islands in great numbers; in many cases, indeed, in hoards of from three and four to over a dozen specimens. Thus four, now in the National Museum of Antiquities of Scotland,¹

¹ *Proceedings*, vol. xix. p. 332.

were found together in a bog in the island of Uyea; six are said to have been found in a row at the side of the Standing Stone at Yahaarwell, near Wester Skeld in Sandsting Parish;¹ and sixteen were found by a man digging peats in the parish of Walls, placed regularly on a horizontal line, and overlapping each other like slates upon the roof of a house, each standing at an angle of 45°. They lay at a depth of about 6 feet in the peat moss, and the line of stones ran east and west, with

the upper edge towards the east.² But by far the most important find of these implements was made at Modesty, about four miles north of Bridge of Walls. Here fourteen were found in a knoll with nine stone axes, fragments of three vessels of steatite, and other relics. This discovery has previously been described in detail along with other finds in our *Proceedings*, vol. xxix. pp. 48-54 and vol. xl. pp. 157-8, the relics being preserved in the National Museum.



Fig. 7. Axe of Serpentinite from Mail-land, Whiteness, Shetland. (†)

There are sixteen specimens in the Lerwick collection and many others are in private possession. Those illustrated (fig. 8) came from Papa (No. 1); Northmavine (No. 3); Tingwall (No. 4); and Sandness (No. 5). No. 2 has no locality. Neither the purpose nor the period of these objects has as yet

been conclusively determined, and it may be noted that several of the specimens (*cf.* Nos. 2 and 4) show striated markings on their flat, polished faces. A specimen, exhibited to the Society in 1908, is peculiar in having a groove on each side hollowed nearly parallel with the back, apparently for the purpose of giving a more secure grip when using the implement. The grooves are placed somewhat obliquely and in reverse directions in relation to each other.³

Arrow-heads.—Arthur Edmonston, M.D., in his books on Shetland,⁴ asserts that "flint heads of arrows have been found at different times," and the Rev. John Turnbull, a former minister of the united parishes of Tingwall, Whiteness, and Weisdale, says also that "Steinbartes or stone axes, called here thunderbolts, are frequently found, also arrow-heads."⁵

¹ *Memoirs read before the Anthropological Society of London*, vol. ii. p. 318.

² *Wilson's Prehistoric Annals of Scotland*, vol. i. p. 184.

³ *Proceedings*, vol. xliii. pp. 22-3.

⁴ *A View of the Ancient and Present State of the Zetland Islands* (1809), vol. i. p. 121.

⁵ *New Statistical Account*, vol. xv. p. 59.

Yet the belief has been prevalent for many years that no arrow-heads of flint or other silicious material were to be found in Shetland. To some extent the assumption may have been fostered by the lack of actual specimens or by the statements of other writers. Hibbert, for example, says: "The flint heads of arrows are frequently found in Orkney. . . . But I am not prepared to say if such relics ought to be

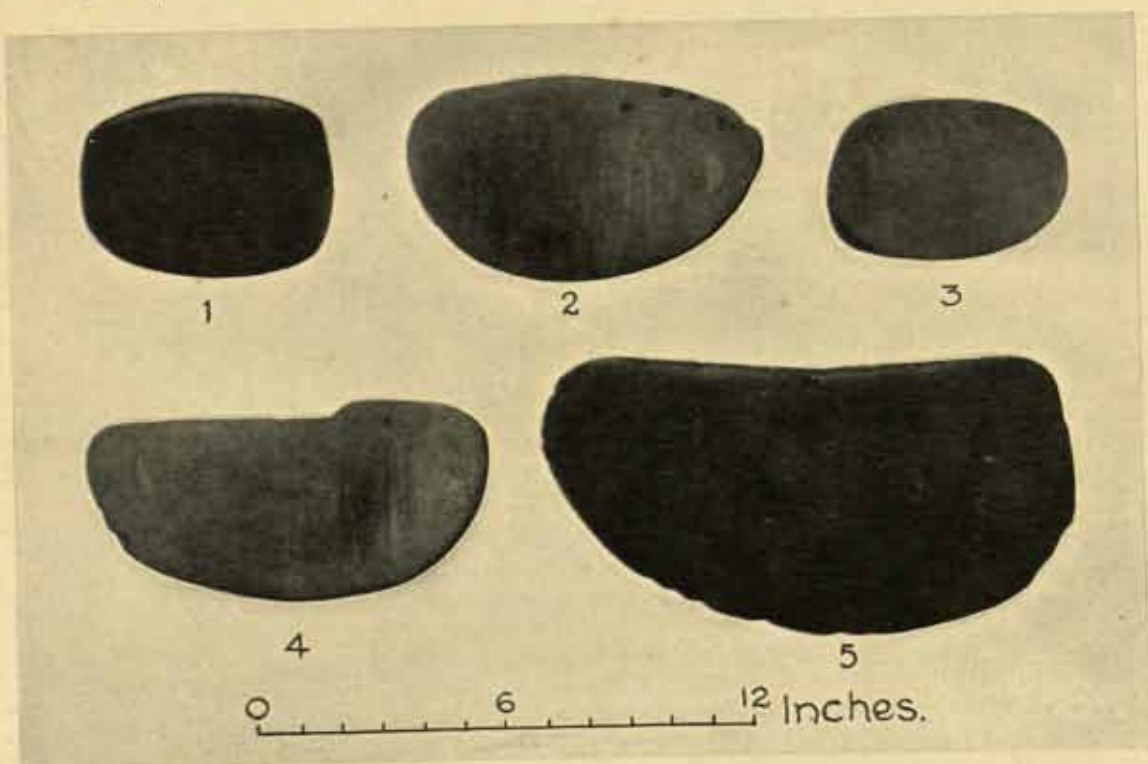


Fig. 8. Polished Stone Knives in Lerwick Town Hall Collection.

enumerated among the vestiges of the ancient armoury of Shetland."¹ Chalmers in his *Caledonia*² makes the same assertion, and Russell,³ writing as late as 1887, repeats the statement. It was with great satisfaction, therefore, that I learned, after repeated disappointing inquiries in different areas, that such relics had indeed been found on one area in the parish of Sandsting and that the specimens were still in the possession of the finder, Mr Peterson. This gentleman not only allowed five of his specimens (fig. 9) to be examined and photo-

¹ *A Description of the Zetland Islands* (1822), pp. 226-30.

² *Three Years in Shetland*, pp. 182-3.

³ Vol. i. p. 261, footnote (f).

graphed, but he obligingly supplied me with the exact location of his finds and gave details of their discovery. In the first year of search he recovered four specimens, and since then he has added two other examples from the same site. All of them are of fine workmanship, and they measure respectively: No. 1, $1\frac{5}{16}$ inch by $\frac{9}{16}$ inch; No. 2, $1\frac{1}{16}$ inch by $\frac{1}{16}$ inch; No. 3, $1\frac{1}{16}$ inch by $\frac{5}{8}$ inch; No. 4 (imperfect), $1\frac{1}{16}$ inch by $\frac{3}{16}$ inch; No. 5, $1\frac{3}{16}$ inch by $\frac{1}{16}$ inch; and No. 6, 2 inches by $\frac{7}{8}$ inch. The sixth specimen has not been figured, but it closely resembles No. 2. They are all of the leaf-shaped type, and they have an additional interest on account of the materials from which they have been made. No. 4, a

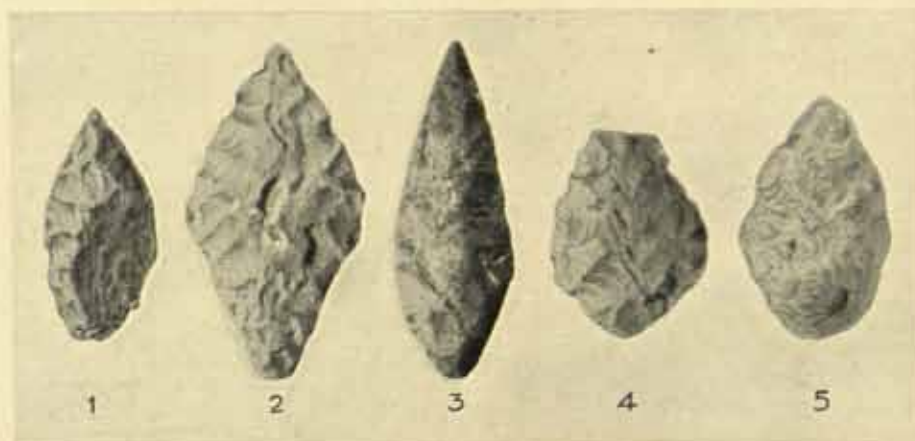


Fig. 9. Arrow-heads of Stone and Flint from Parish of Sandsting, Shetland. (†.)

slightly imperfect specimen, is made from an impure flint, No. 5 from a crystal-like quartz, but the others are of unusual materials. Mr G. V. Wilson of H.M. Geological Survey identifies the large broad specimen (fig. 9, No. 2) as being made from a quartz felspar porphyry, and the others (Nos. 1, 3, and 6) as having been fabricated from a very fine-grained silicious epi-schist. In view of the remarkable scarcity of such relics throughout the islands, this discovery is one of the greatest importance, and I feel honoured in having been permitted to bring it before your notice. While congratulating Mr Peterson upon the success which has attended his observations, we hope that it may be an inducement to others to prosecute the search in other districts.

Penannular Bronze Brooch.—This interesting brooch (fig. 10) was found many years ago in a peat bank to the west of Pinhoulland in the parish of Walls, and it has recently been acquired for the National Museum. It is of penannular type, dating probably from about the

fourth or fifth century, and it measures $2\frac{3}{4}$ inches in diameter. The ring is round in section, and the broadened terminals assume conventional zoomorphic forms resembling the heads of beasts with duck-bill-shaped snouts. The pin, which is broken into two parts, has a barrel-shaped hinge encircled with three raised mouldings.

Viking Brooch of Silver.—One of the most prized exhibits in the Lerwick Town Hall collection is a very fine Viking brooch of silver. The relic (figs. 11 and 12) was formerly in Mr J. M. Goudie's possession,

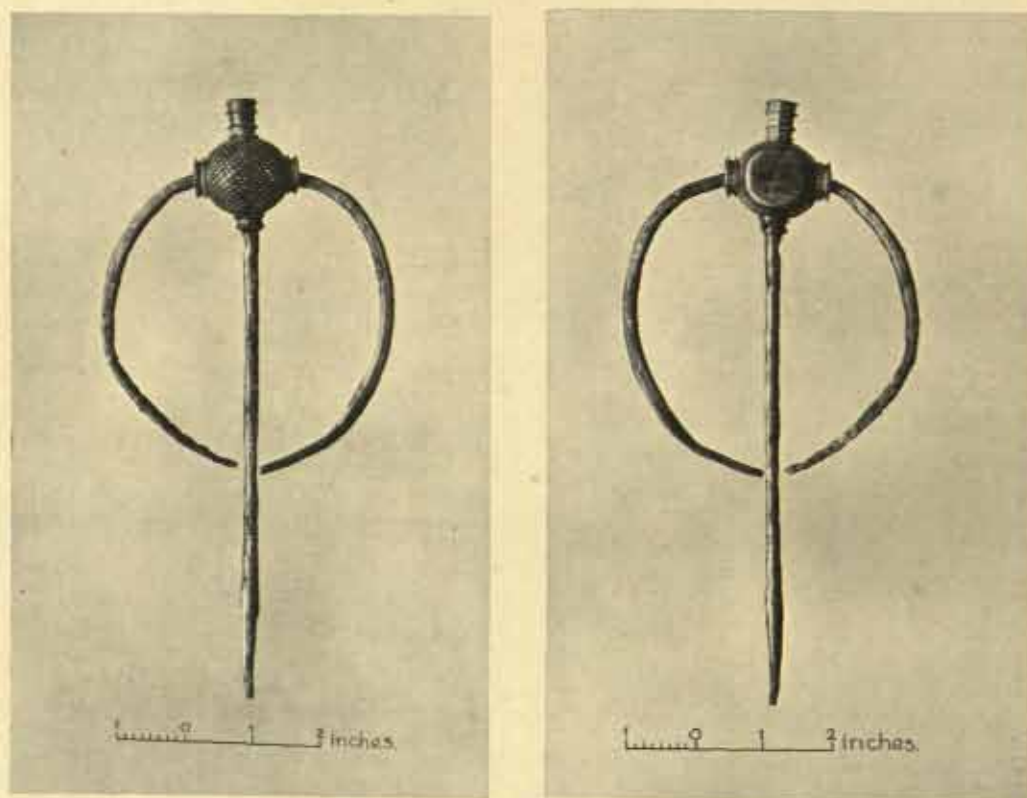


Fig. 10. Penannular Bronze Brooch from Pinhoulland, Walls, Shetland. (†.)

and I understand that it was found many years ago in the peat at Gulberwick, near Lerwick. It consists of a solid cylindrical rod of silver $\frac{1}{4}$ inch in section, bent into a penannular ring $4\frac{1}{4}$ inches in diameter, with the two extremities gradually tapering to bluntish points instead of, as in many examples, being fitted with bulbs and ornamented terminals. The pin, which measures $8\frac{5}{8}$ inches in length, is cylindrical in section in the upper part, but flattens out to an oval section near the point. It is fitted by means of an ornamented collar to the lower part of a hollow-cast bulbous head, which turns loosely on the ring of the brooch. The bulb, which measures $1\frac{1}{16}$ inch by $1\frac{1}{2}$ inch in diameter, is, on the front, elaborately decorated with a characteristic prickly ornament, and on the reverse it has a six-rayed star, with dots and small circles between the rays, engraved on a flat circular panel

$\frac{7}{8}$ of an inch in diameter. On either side it has ornamented collars through which the ring of the brooch passes, and on the top it has the conventional ornamented thistle-head terminal.

Ornamented Stone Disc.—Ornamented discs of sandstone have previously been found in Shetland, but to-night I have to present to you



Figs. 11 and 12. Silver Brooch from Gulberwick, Lerwick, Shetland.

an example made of soapstone (fig. 13), which clearly belongs to the same class. It was found on rough ground on the hillside about 100 yards outside the dike of the township area of Gletness, in Nesting Parish. It measures $2\frac{5}{16}$ inches in diameter by $\frac{1}{2}$ inch in thickness. The surface has been nicely smoothed and polished, and the ornamentation occurs on one face only. The design has been carefully executed, and it differs in pattern from any of the known examples, although it corresponds almost exactly to the design on the boss of the elaborately ornamented cross at Monymusk, Aberdeenshire.¹ The purpose of these

¹ *Proceedings*, vol. lix. p. 37.

ornamented discs is not known, but they appear to resemble tablemen more than anything else. They are of rare occurrence. Six have been recorded from the Shetland Islands,¹ some of them from broch sites, and there is another specimen in the Museum from Stemster Hill in the parish of Bower, Caithness.

Ornamented Club-like Implement.—In the Lerwick Town Hall collection there is also a very fine ornamented specimen of a handled implement (fig. 14) which belongs to a class of objects that is almost entirely confined to the Orkney and Shet-



Fig. 13. Ornamented Stone Disc from Gletness, Nesting, Shetland. (f.)



Fig. 14. Stone Club from Sandness, Shetland.

land Islands. On certain sites in Shetland, as at Quendale Sands, Sefster, and Houlland, broken examples of this class have been often found lying together in large numbers, but their particular purpose has not so far been determined. As a rule they are crudely fashioned, but this Lerwick example, from the Sandness district, is remarkable for its symmetry of outline and its decoration. A cast of the implement can be seen in the National Museum. It measures 11 inches in length by $4\frac{1}{2}$ inches in breadth and $1\frac{1}{8}$ inch in thickness. The handle is

¹ *Proceedings*, vol. xvii, pp. 296-7 and vol. xli, p. 33.

4 inches in length. The body or blade of the implement is broad and flattened, with an oval-shaped section, and it has been ornamented with two parallel groups of six-cord mouldings, which encircle it at the tip and at the base above the handle. One face of the implement is somewhat worn or weathered. It cannot be definitely stated to what period the relic

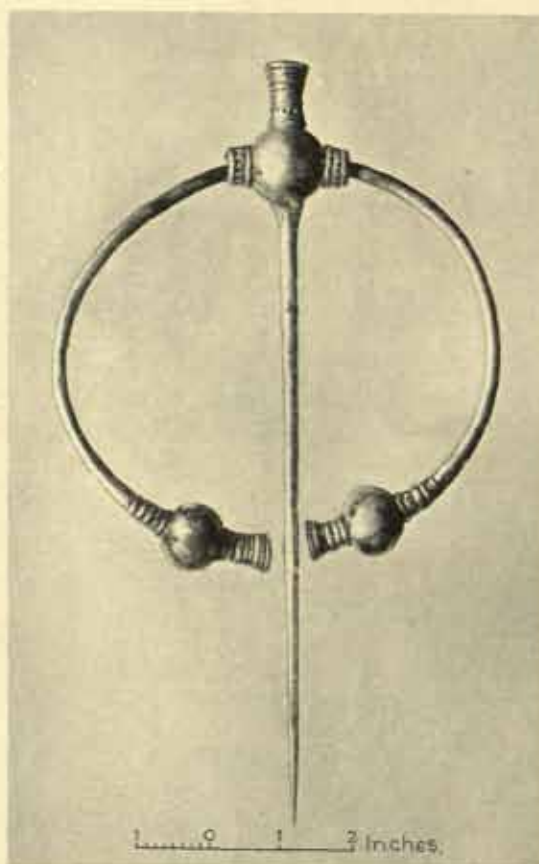


Fig. 15. Brooch of Silver from Skaill, Orkney.

are greatly indebted to him for allowing it to be figured and for permitting this short notice of the relic to be added to the existing records of such an important deposit.

The brooch is of large size and in a good state of preservation. In general type it is not unlike six others that were found in the same

should be assigned, for implements of this class have been found in associations which seem to imply that they have a wide range in time. Thus they have been found in Bressay, in the heart of a burnt mound,¹ in Sandsting, around an underground structure,² and at Jarls-hof³—all in Shetland; and at Redland, Orkney, on broch sites.⁴

3. VIKING BROOCH OF SILVER FROM SKAILL BAY, ORKNEY.

This fine silver brooch (fig. 15) from Skaill Bay, Orkney, was one of the items found in the important hoard of Viking relics which was accidentally discovered in March 1858.⁵ Since that date the brooch has been in private possession, and has not previously been described in the *Proceedings* of the Society or in any other publication. It is now in the possession of one of our Fellows, Mr J. Storer Clouston, President of the Orkney Antiquarian Society, and we

¹ *Proceedings*, vol. vii. p. 127.

² *Ibid.*, vol. xli. pp. 26-7.

³ Most of these objects are now in the National Museum.

⁴ *Ibid.*, vol. vii. p. 119.

⁵ *Ibid.*, vol. lxiii. p. 17.

hoard, but it differs from them in the details of its ornamented parts. The incomplete ring of the brooch, which measures $5\frac{1}{4}$ inches by $6\frac{1}{2}$ inches in diameter, is made of a solid cylindrical rod of silver, $\frac{1}{4}$ inch in diameter, and it is fitted with ornamented terminal knobs furnished with hollow-cast bulbous expansions, which give them a strong resemblance to thistle heads. These bulbous expansions or spheres are undecorated, and are each $\frac{1\frac{1}{2}}{16}$ of an inch in diameter. A larger knob or expansion, $1\frac{5}{16}$ of an inch in diameter, with ornamented collars on either side of it, fits loosely on the ring of the brooch. Its upper part terminates in a conventional thistle head, and from its lower part there projects a stout pin $10\frac{1}{4}$ inches in length. The pin is also of silver, cylindrical in section in the upper part but flattening out a little near the somewhat blunted point. The ornamentation, which is confined to the collars and terminal points, is simple but effective. It consists of a series of engraved parallel lines passing obliquely across the spaces they fill, and alternating with other bands of indented triangular spaces or circles, or with bands that are plain.

IV.

LESMOIR CASTLE AND THE CHURCH OF ESSIE: WITH SOME FURTHER NOTES ON AUCHINDOIR. By W. DOUGLAS SIMPSON, M.A., D.LITT., F.S.A.ScOT.

The following paper will give an account of the associated church and castle site at Lesmoir, in the Aberdeenshire parish of Rhynie; and will also include some additional materials which I have gleaned since the publication of my paper on "Craig Castle and the Kirk of Auchindoir" in *Proceedings*, vol. lxiv, pp. 48-96.

In that paper I pointed out the early importance of the Essie site on one of the ancient highways (see Map, fig. 1) leading through the hills from Mar into Moray, and explained how this was no doubt the reason why the place became the scene of the defeat and death of Macbeth's stepson, Lulach the Fatuous, on 19th March 1058:—

*"Fata viri fuerant in Strathbolgyne apud Esseg:
Heu! sic incaute Rex miser occubuit."*¹

As in the case of the parallel road from Auchindoir into the Cabrach, so also the great antiquity of the Rhynie-Essie road is revealed by the archaeological remains with which it is associated (see Key-map, fig. 2). The cup-marked stones at Scurdargue,² the cup-marked stones and the two earth-houses at Balhinny, the earth-house in Glencoe, the large assemblage of cairns at Milduan,³ and various prehistoric burials found along the line of the road, prove that the valley was fully inhabited in early times; nor must we forget that the whole series of ancient roads in the district is dominated by the great vitrified fort on the Tap o' Noth. As I pointed out in my former paper, the introduction of Christianity in these parts seems to have been effected by St Moluag from Lismore in the later sixth century, his name being associated with the site still known as Clochmaloo, Moluag's Stone, on the south flank of the Tap: the former presence of a sculptured cross seems to be vouched for by the name Corsehill, west of Milltown of Noth.⁴ About a mile south-east of Essie Church is a farm called Templand, known in the seventeenth

¹ Wytoun, *Original Chronicle*, ed. F. J. Amours, vol. iv. p. 305.

² *Proceedings*, vol. xvi. pp. 343-5.

³ See Dr James Macdonald, *Place Names in Strathbogie*, pp. 253, 265, 274-8. The O.S. Map (Aberdeenshire, 6-inch, Sheet 42, N.E.) marks the sites of burials at Maiden Hillock, south-west of Lesmoir, and at Brae of Essie.

⁴ *Ibid.*, p. 253.

century as the Temple-lands or Templar-lands of Essie;¹ this was anciently a property of the Knights Templar. There was also a chapel site at

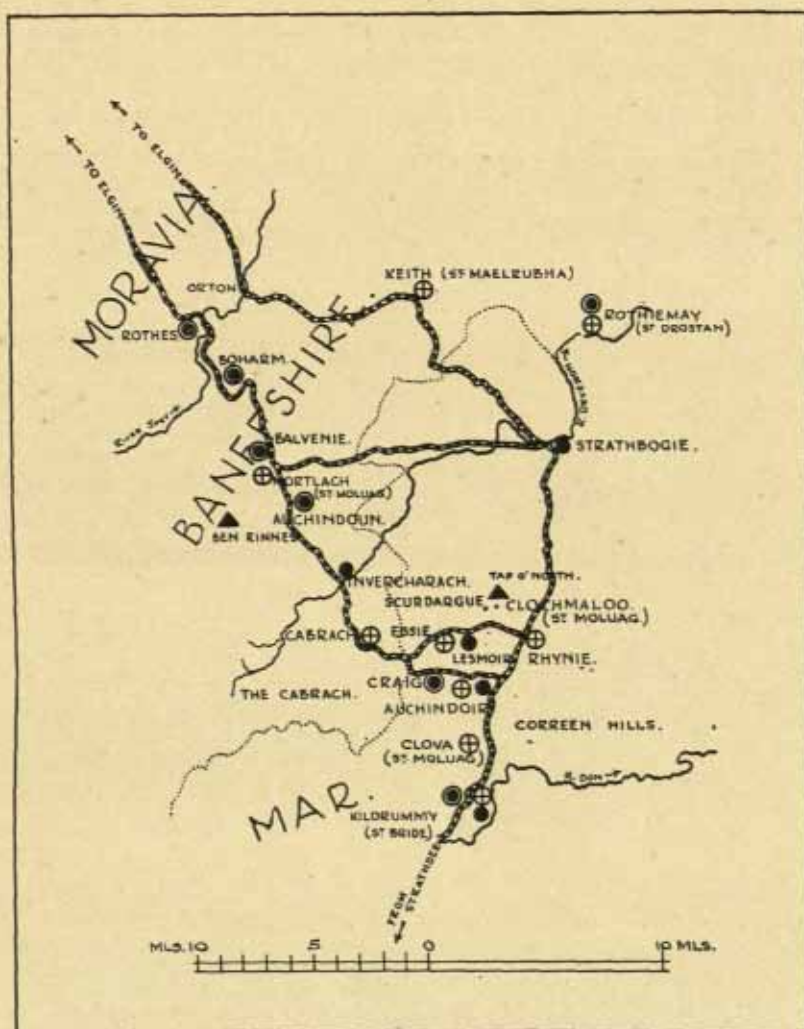


Fig. 1. Map of the Early Routes from Mar into Moray.

(NOTE.—*Mottes* are indicated by a dot; stone castles by a circled dot; churches by a circled cross.)

Chapel Cairn, near Finglenny, in the western portion of the glen:² near

¹ "Temple-lands of Essie," 1600, see *The House of Gordon*, ed. J. M. Bulloch, vol. ii. p. 191 (30) (for the pagination, see *infra*, p. 90, note 1); "*Terrae templariae* of Essie and Fullyement" (Wheedlemont, see *Proceedings*, vol. lxiv. p. 53), 1610—*Registrum Magni Sigilli*, 1609-20, No. 337.

² Macdonald, *op. cit.*, p. 259.

to this is Bell-hillock, the mound on which the chapel bell was hung from a tree, as at Rhynie, Kildrummy, and other places.¹

Essie appears first as a separate parish, with its own church and church lands, in 1227;² in the fifteenth century it was for a time conjoined with Rhynie, but early in the following century it had again become

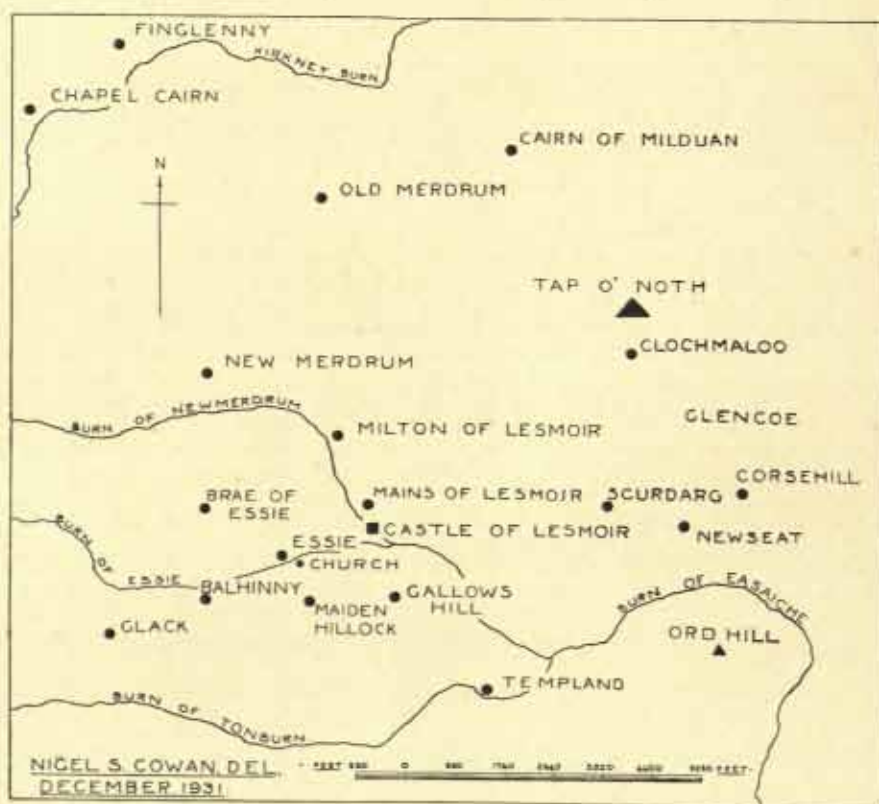


Fig. 2. Lesmoir Castle: Key-map.

a separate charge. Between 1536 and 1544 Master William Gordoune, parson or rector of Essie, is on record³—he having doubtless been a member of the Lesmoir family. The topographical phenomena are the same as those found at Auchindoir, pointing clearly to the organisation of a parish out of a manor during the Anglo-Norman penetration in the twelfth or early thirteenth century. As at Auchindoir, church and castle are found side by side: but whereas at Auchindoir, when the Gordons

¹ Macdonald, *op. cit.*, p. 270; cf. my *The Castle of Kildrummy*, p. 273.

² *Registrum Episcopatus Moraviensis*, p. 22.

³ Macdonald, *op. cit.*, p. 271; *Records of Aboyne*, p. 68.

arrived in the sixteenth century, they rehoused themselves higher up the glen,¹ the Lesmoir branch of the family adhered to the old Norman site. The genealogical table which Dr J. M. Bulloch contributed to our *Proceedings*² in his account of the family of Craig shows how the common ancestor of the Gordons of Craig and of Lesmoir was "Jock of Scurdargue," who settled here early in the fifteenth century. Scurdargue is a large farm immediately east of Essie: but there is no trace or record of a castle or manor house ever having existed on the spot, and I agree with the late Dr James Macdonald in his opinion that the residence of Jock of Scurdargue was the early manorial centre at Lesmoir, as he is frequently referred to as the laird of "Essie and Scordarg."³ Lesmoir is, of course, the *lios mor* of Essie, the "big fortified enclosure"—a name doubtless applied by the Celtic inhabitants to the early Norman castle. In a retour of 1642 it is specifically stated that Lesmoir was the manor place of the lands of Essie.⁴ Moreover, the Balbithan MS. records that Jock of Scurdargue himself "dyed in Essy and was interred in the Kirk of Essy," and that his natural son Alexander, ancestor of the Buckie Gordons, as also the latter's son John, were styled "of Essy"; and that the former was buried in the church there beside his father, Jock.⁵

No record appears to exist of the early Norman or Normanised lords of Essie, to whom the lay-out of the manor with its associated church and castle sites must have been due. But Mr Thomas Innes of Learney, Carrick Pursuivant, has kindly drawn my attention to an unpublished charter, *circa* 1256-80, in which the Kyrktoun of Essy is granted by Duncan de Fernydrach (Frendraught in Formartine) to Archibald, son and heir of the deceased John de Aberkerdour (Aberchirder).⁶ The

¹ An exact parallel to the state of affairs in Auchindoir occurs at Boyne in Banffshire. Here the old castle of the Thanedom, known as the Craig of Boyne, was abandoned and a new castle built about a mile up the burn, *circa* 1580: and here also, precisely as at Auchindoir, the name "Craig of Boyne" was transferred to the later building. See my paper on "Three Banffshire Castles—Boyne, Findlater, and Findochty," printed in *Transactions of the Banffshire Field Club*, October 1931, p. 79.

² Vol. lxiv. p. 98.

³ Macdonald, *op. cit.*, pp. 255-6.

⁴ *The House of Gordon*, ed. J. M. Bulloch, vol. ii. p. 219 (67).

⁵ *Ibid.*, vol. i. p. 57. It may be added that in the old ballad of "Jock and Tam," Lesmoir seems distinctly to be indicated as the residence of Jock of Scurdargue:—

"Jock of Scurdarg had houses grand
In Bogie, Mar, and Buchanland,
Straloch, Pitlurg, and Auchindoir,
Cairnbarrow, Buckie, and Lesmoir."

⁶ Mr Innes writes me as follows:—

"You will find in the National Library (*Hutton Collections*, p. 120) an undated charter by Duncanus de Fernydrach to Archibald Aberkerdour, son and heir of the deceased John de Aberkerdour, of Essy, *qua vocatur* Kyrktoun. The witnesses are, Sir Gilbert de Glencairnie the father, Sir Gilbert de Glencairnie the son, and Sir Henry de Ferendrach, William, son of the granter of the deed, Peter de Donerdi, and Colban de Yelgedron. Hutton's transcript is stated to

organisation of the manor and parish may well have been due to the Frendraughts. How long the Aberchirder family retained an interest in Lesmoir we do not know. The history of their Gordon successors has been exhaustively treated by Captain Douglas Wimberley and Dr J. M. Bulloch.¹ The first laird, James Gordon, obtained a grant of the lands of Essie from his chief and kinsman, George, fourth Earl of Huntly, prior to 1537, in which year he is first referred to as "James Gordon of Lesmoir."² On 8th March 1544 Lord Huntly executed a charter of confirmation, or rather a renewal of his grant, in which are specified "the lands of Esse with the croft of Auchtleke, with the place and houses of Losmoir, and the lands of Balhenne in the barony of Strathbogie."³ Either Lord Huntly had done some building at Lesmoir Castle before he handed it over to James Gordon, and had marked his work with his own coat-of-arms, or else the new laird had placed upon his castle the heraldic bearings of his feudal superior, for there still exists a fragmentary stone, removed to Druminnor from Lesmoir when it was finally dismantled, which seems to exhibit the arms of the fourth Earl of Huntly.⁴ The stone shows a shield surmounted of a plumed helmet and earl's coronet, and charged with heraldic bearings of which the third quarter contains the three fraises that the Huntly Gordons displayed on their coat-of-arms:

be a copy of an original in the Kinloss papers. By this date it had become rather difficult to tell whether territorial designation implies ownership or a surname, and I think the tentative pedigree of the Ferendrach which I gave in *Scottish Notes and Queries*, September 1931, requires some modification in the light of further research. The Essie charter must, however, be of date between about 1256 and 1280. The heraldic evidence indicates that the Ferendrachs were descended from the Robertsons of Struan. Who they married prior to the time of Marjorie Glencairnie we do not know. From Sir Duncan's attitude to Edward I. one may conclude that their sympathies were decidedly on the English side.

"I presume the grant was little more than a heritable security, and the grantee is presumably the Thane of Aberkerder, who was son of John de Aberkerder—who, according to an MS. copy index of the Register of the Bishopric of Moray, was living in 1242. Some of the deeds Gordon quotes in his *Province of Moray*, vol. ii. p. 388, I have been unable to trace, but there is no reason why Archibald should not have lived after John and died prior to 1286-9, when Symon, Thane of Aberkerder, founded the Chaplainry of St Marnan, *inter alia*, for the souls of his ancestors. Symon was succeeded by his daughter, Sybil de Aberkerder, who died prior to 1328 (*Ant. Aberdeen and Banff*, vol. ii. p. 218). The arms of the subsequent Thanes of Aberkerder are also based upon Ferendrach-Robertson, and one can hardly doubt that Sybil was married to either Malcolm or John de Ferendrach, but there is no evidence that the Aberkerders continued to own Essie. Sybil's son was presumably another Archibald de Aberkerder, living 31st July 1343 (*Exchequer Rolls*, vol. i. p. 515), but who was evidently dead prior to 1358 (*ibid.*, p. 548)."

¹ *The House of Gordon*, vol. i. pp. 153-510. The section on Lesmoir was also printed as a separate volume, and in citations made in the present paper the pagination of the separate volume is given in brackets.

² *Ibid.*, p. 10. It is an interesting sidelight on the times that the first laird of Lesmoir, although a powerful chief and closely related to the noble houses of Huntly and of Athol, could not write his own name. This appears from a deed signed by him, "led" by a notary—see *Records of Aboyne*, p. 85.

³ *Registrum Magni Sigilli*, 1546-80, No. 2814.

⁴ *The House of Gordon*, vol. ii. pp. 258-9 (106-7). The stone now lies against the outside of the garden wall at Druminnor, close west of the house.

the dexter supporter is an allound. At all events we may take the reference to the "place and house of Lesmoir" in 1544 as proof that there already existed a stone castle on the site at this date.

Although they were, inevitably, more or less mixed up in the civil and religious commotions of the sixteenth and seventeenth centuries, the Lesmoir Gordons never played a prominent part in the national, nor even to any great extent in the local, affairs of their day. On the contrary, they seem to have set their affections upon the acquisition of land; with so successful a result that—according to a member of the family in 1784—at the time of their greatest prosperity they had a fortune of 30,000 marks a year.¹ "From their root in Rhynie they branched all over Aberdeenshire, appearing in the parishes of Auchterless, Cabrach, Clatt, Culsalmond, Daviot, Drumblade, Essie, Fetterangus, Fyvie, Gartly, Inverurie, Kennethmont, King Edward, Logie-Coldstone, Newmachar, Old Machar, Peterhead, Premnay, Strathdon, Towie, and Tullynessle. They went north-west into Banff and Elgin, and they appeared sporadically in Fifeshire and Perthshire."²

In 1625 the fourth laird, James Gordon, was created a baronet of Nova Scotia. The family adhered to the ancient faith, and suffered accordingly in the Civil Wars. During the early part of the next century they fell into pecuniary straits, and disposals of lands became necessary, culminating about 1743 with the sale of Lesmoir itself. The property, described as "the lands of Lesmoir and Essie," was purchased by John Gordon of Wardhouse and his son Arthur, by whom it was turned over in 1747 to Alexander Garioch of Kinstair, who on 19th June and on 30th October 1759 exposed the whole for sale in the *Aberdeen Journal*; the advertisement gives a detailed and a very interesting description of the condition of the estate at that time. The sixth baronet, Sir William Gordon, who sold the lands, appears to have retained the right to reside in the house until his death, which occurred there on 13th September 1750.³

As to the history of the castle itself, the following particulars have been preserved. It has been asserted⁴ that the building was erected in 1508, but the date lacks confirmation. A family historian, writing in the year 1600, tells us that Alexander Gordon, the third laird, who succeeded in 1591, "has repaired and builded in Lesmoir more sumptuouslie by farr then it was befor."⁵ In the Civil War the castle was held for the Crown, and on 27th March 1647 it was attacked and captured by the Covenanting

¹ *The House of Gordon*, vol. ii. p. 241 (89).

² *Ibid.*, p. 159 (7).

³ *Aberdeen Journal*, 18th September 1750.

⁴ Sir Robert Douglas, *The Baronage of Scotland*, p. 30. The authority quoted is an "MS. History of the Family of Lesmoir." Cf. *Memorials of the Family of Gordon of Lesmoir*, by Captain Douglas Wimberley, p. 2.

⁵ *The House of Gordon*, p. 193 (41).

General David Leslie. We still possess General Leslie's report of the affair, furnished to the Committee of Estates. The report is dated from Lesmoir, 27th March 1647, and makes precise but grim reading. After describing the capture of Wardhouse on the 25th, the Covenanting commander continues: "Two dayes thereafter I took in the house of Lesmoir—a place of considerable strenth and compassed with water. After the water wes diverted and the close gained with the losse of two or thrie men and some wounded, they burned the low howses"—i.e. the "laigh bigging" or offices within the courtyard wall—"and betook themselves to the towr; and, finding that the place could not be carried without the losse of men and bestoweing of much tyme, I conceaued it most for the advantage and speeding of the service, upon a parlye offered by the captain¹ to agree with him upon these conditions, that he should yeeld up the house and all that therein wes, that all the Irish should dye, and his owen lyfe, with Harthill the elder,² should be spared, but they both to be prisoners until they satisfyed Church and State, otherwise be banished the kingdome. So I caused hang 27 Irish.³ The Captain and Lesmoir, with two or thrie Scottismen, poor sogers, more I haue prisoners; wherein, if I haue done any thing amisse by sparing their lyues, I desyre your lordships' positive and peremptory orders in tyme coming, that I may rule myself accordingly. And becaus the houses and holds in this countrey which have been formerly guarisoned will but occasion new troubles, if they be not slighted, I shall lykewyse desyre your lordships' orders for ruining and rendering them unprofitable."⁴

¹ Captain Mortimer, "ane Scotisman," one of Montrose's most active and trusted officers, who as early as the battle of Aberdeen (13th September 1644) appears in command of "Irish muscatiers." See Patrick Gordon, *Britane's Distemper*, reff. in Index. Leslie does not mention him by name, but we learn that he was in command at Lesmoir from W. Gordon, *History of the Family of Gordon*, 1727, vol. ii. p. 531.

² John Leith, the "wild laird" of Harthill, in the parish of Oyne, where the fine ruin of his castle remains. On 31st July 1640 the Scottish Parliament considered a petition from Leith, asking for mercy on behalf of himself, his wife, and his daughter. "I, the said Johne leith, in the yeir of God 1647 yeires wes takin in the housse of Lesmoire with dyverse wthers wpon capitulatione & agriement for safetie & fredome of lyves & fortunes whilk wes reallie observed & kepted to all that wer takin with but not to myselfe. Quha ever since hes lyen in the house in extreime miserie destitut of all comfort of bodie or mynd, haveing none to befriend me nor to speak for me to your lordships to shaw your lordships my present distress & miserie. Quhill now that my said wyff & daughter ar come heir of necessitie for want of maintenance to entertaine them & myselfe, My lands and estait being ruinat & wndone," etc. (*Act. Parl. Scot.*, vol. vi. pt. ii. p. 738). This document shows that Lesmoir Castle had, at all events, not been demolished by that date—two years after its capture. The island castle on Loch Kinnord, captured soon after Lesmoir, was not ordered to be slighted until June 1648. See *Proceedings*, vol. lxiii. p. 131.

³ These wretched "Irish," whom the Covenant in the tyranny of its triumph treated as worse than vermin, were probably to a large extent Celts from the western Scottish mainland and the Hebrides.

⁴ Sir William Fraser, *The Melvilles, Earls of Melville, and the Leslies, Earls of Leven*, vol. ii. p. 96. Leslie's remarks about the policy of garrisoning captured houses evidently refer to § 6 of his instructions from the Committee of Estates, as printed in *Act. Parl. Scot.*, vol. vi. pt. i. p. 723.

From this account it appears that Lesmoir Castle in 1647 consisted of a tower and a barmkin or walled courtyard, enclosing outbuildings, and that the whole was girt by a moat. Whether the Committee of Estates agreed that it should be "ruined and rendered unprofitable," in accordance with Leslie's suggestion, no documentary evidence appears to tell. But that the castle continued to be inhabited long thereafter is quite certain: the sixth baronet, Sir William Gordon, as we saw, died in it in 1750. In this connection, importance attaches to a description of the castle, *circa* 1725, wherein it is styled "a pretty house with seven clusters of chimneys."¹ The mention of clustered chimneys is significant, for the old Scottish fashion was that all the flues in each gable were gathered into and vented by a single stack. Separate chimney stacks are in Scotland a product of Renaissance influence, and the allusion to "clusters of chimneys" at Lesmoir suggests some such arrangement as is found at Leslie Castle, Aberdeenshire, built in 1661-1664, where the chimney vents form separate shafts, seated diagonally.² It is possible, therefore, that if Lesmoir Castle was "slighted" after its capture in 1647, the building with clustered chimneys, of which we have a description eighty years later, may have been a reconstruction carried out after the Restoration in 1660. It is perhaps significant that after this period we meet with reference to a Newton of Lesmoir.³

When the estates were sold in 1759 the new owner, John Grant of Rothmaise,⁴ commenced to pull down the castle piecemeal for the sake of its materials. He inflicted a like barbarous fate upon the adjoining Kirk of Essie, the parish of which had long been merged with Rhynie, although the old church continued up till about 1740 to be used as a chapel of ease. Few particulars as to the history of Essie Church are preserved, nor does its patron saint appear to be known, though we may conjecture a dedication to Moluag.⁵ About 1350 the church is taxed at 6 marks, and about 1400 the procurations due to the Bishop of Moray from the parson of Essy are fixed at 2d.⁶ In 1490 Richard Strachan was rector.⁷ In the *List of Ministers and Reidaris* of 1576 Walter Leslie is entered as Reader in Essie, enjoying "the hail thrif of the personage

¹ *The House of Gordon*, vol. ii. p. 245 (93).

² See my paper on this castle in *Scottish Notes and Queries*, January 1925, pp. 1-5.

³ *The House of Gordon*, vol. ii. p. 237 (105).

⁴ He went bankrupt in 1779, and his estates, including Essie, were exposed for sale in the *Aberdeen Journal*, 9th August 1779. The inventory includes "The Mains and Manor Place of Lessmoir, with the Tower and Fortalice thereof."

⁵ The references to Essy in *Copiale Prioratus Sancti Andree*, ed. J. H. Baxter (see Index), there wrongly ascribed to our Essie, belong to the parish of Essy, now Eassie, in Angus.

⁶ *Ant. Aberdeen and Bangf.*, vol. ii. pp. 147, 148.

⁷ J. A. Henderson, *Aberdeenshire Epitaphs and Inscriptions*, p. 163.

and vicarage of Essie extending to vj lib. xiijs iiijd."¹ In 1646 Mr George Chalmer, assistant to the minister of Rhynie, and evidently in charge of the church at Essie, made complaint to the Presbytery of Strathbogie that the parishioners had failed to implement an agreement to pay him £40 "to build ane hous vpon the manse of Essie for his present accomodatioun."²

In addition to the associated church and castle site, Essie presents other topographical features indicative of an ancient manor. The farm across the road from the castle ruins is Mains of Lesmoir, *i.e.* the demesne or mensal lands of the baronial household: while to the north is Milton of Lesmoir, which first appears on record in 1604;³ and south of the castle site is the Gallows Hill. In mentioning Milton of Lesmoir, reference may be made to a curious entry in the Presbytery Records of Strathbogie, under date 13th August 1651, whereby it appears that at Milton the old Scottish superstition was followed of reserving a part of the farmland unploughed for the use of the "Goodman," that is, the Devil: it being hoped thus to placate his Satanic Majesty and avert his unwelcome attentions from the rest of the farm. Taken to task on the subject by the Presbytery, Sir William Gordon of Lesmoir admitted that part of the Mains was thus "giuen away (as is commonly said) to the Goodman," and had not been ploughed, but stated that "he had a mynd, be the assistance of God, to cause labour the samen." The Presbytery, with the respect due to an influential laird, instead of setting him up in the Kirk in sackcloth, praised him for his "ingenuitie," *i.e.* honesty in making a clean breast of the disgrace fulbusiness, and exhorted him "to take paines shortly to haue it laboured."⁴

LESMOIR CASTLE.

The site of the castle is, as General Leslie found, a very strong one. It lies between three streams, one of which, the Burn of Essie, flows past its south front, and receives into itself (first) the Burn of Newmerdrum, which flows round the west and south sides of the castle, acting here as its moat; and (secondly) the lade from Milton, which comes down along the east side of the castle area, and unites with the Essie a short distance to the south-east.

"O the bonnie wee Essachie burn,
Hoo it rushes and tumbles in glee,
Frae Merdrum's braes by aul' Lesmoir
An' Craigbeg on to the sea."

¹ *Ant. Aberdeen and Banff*, vol. ii. p. 152.

² *The Presbytery Book of Strathbogie*, p. 65.

³ *Register of the Privy Council*, vol. vii. p. 575.

⁴ *The Presbytery Book of Strathbogie*, pp. 207-9. For other references to the "House of Lesmoir" and the harbouring of "masse priestis" therein, see *ibid.*, pp. 39, 43, 78; and *cf.* Spalding, *Memorials of the Troubles*, vol. ii. pp. 272, 293, 296, 435, 460.

The ground to the south and east of the castle is still marshy. Lesmoir stands at a height of 950 feet above sea-level.

The castle¹ appears to have consisted of a mount at the north-west corner, with a triangular, cape-like bailey extending with its apex to the south-east, and at its base lapping round the east and west sides of the mount. The bailey is level, and is raised about 5 or 6 feet above the surrounding marshland. It is revetted all round by a dry-built stone dyke of massive boulders. The bailey measures about 172 feet in breadth—reckoned tangentially across the south-east front of the mount—by about 140 feet in length from the mount to the apex. On the south side of the latter there appears amid the boulder dyke a length of about 16 feet of masonry, surviving to a height of 3 or 4 feet, and terminated eastward by a built quoin. This is evidently a portion of the old barmkin wall. The masonry is of the type usual in Aberdeenshire in the sixteenth century, consisting of coursed boulders with numerous horizontal pinnings. At present the mount is raised about 5 feet above the bailey, but presents the appearance of having been greatly disturbed and apparently cut down at the time when the later stone castle was built. The surface of the mount is now much confused and dug into, and is overgrown with trees and shrubbery. It is circular in form and measures about 112 feet in diameter. Remains of masonry may be detected at various points, in particular one small fragment of a wall about 3 feet thick on the north front, where now is the entrance to the site; this fragment may perhaps be part of the west cheek of the transe.

Across the road from the castle are the pleasant farmhouse and steading of Mains of Lesmoir, with a garden having a fine sunward exposure. In the garden rockery are preserved some carved freestone pieces formerly belonging to the Castle. These include a gargoye runnel, banded and with a buckle on either side: the much damaged half-length bust of a gentleman with a ruff and a flat cap, the arms being broken off; portion of a stone carved with a conventional foliaceous enrichment; a large corbel cap, now much wasted; the dial stone of a sundial; the jambstone of a window, grooved for glass and showing a 3½-inch chamfer; a crocketed pinnacle; and a crocket which probably formed an ornament on a dormer gable. The bust of the gentleman appears to have been a companion piece to the figure putting the weight now preserved at Craig Castle.² In addition to the stone at Druminnor already alluded to, displaying the arms of the fourth Earl of Huntly, there exists another carved stone from Lesmoir which was taken to Helens-

¹ It has not been thought worth while to insert a plan here, as all the features of the site are fully displayed in the O.S. Map (Aberdeenshire, 25-inch scale, Sheet 42, 7; 6-inch scale, Sheet 42, N.E.).

² *Proceedings*, vol. lxiv, p. 93.

burgh, and is now built into the wall of a brick house there; it shows part of a unicorn's head, evidently a supporter of the royal arms.¹

The two corbel caps now at Craig and at Mains of Lesmoir have evidently come from the angles of a large groined vault: and the fact is important, as it probably means that Lesmoir Castle had a groin-vaulted hall like that at Towie Barclay, described in my former paper. Very likely, therefore, Lesmoir formed a fifth member of the Gight-Delgaty-Craig-Towie group of castles, the peculiar character of which I demonstrated in my former paper. Here again we mark a family connection, for the first laird of Lesmoir married as his second wife, before 1546, Margaret Ogilvie, relict of Walter Barclay of Towie and Gartly.² All these various *disjecta membra* from Lesmoir belong to about the close of the sixteenth century, and must form part of the "sumptuous building" carried out by the third laird between 1591 and 1600.

There exists a transcript of an ancient "genealogy from father to son of the House of Lesmoir, as it was painted on the chimney of the said house."³ If, as we have seen is likely, the hall of Lesmoir Castle was vaulted, then the fireplace may have had a tall pointed hood, like the one at Borthwick Castle, which would form an ideal basis for depicting such a "family tree."⁴

The Ordnance Survey map notes a sword found within the castle area, also a coin of Elizabeth and one of Mary Queen of Scots found on the line of the road between Essie Church and Balhinny.

For access to the site of the castle, and to the carved fragments preserved in his garden, I am indebted to the courtesy of Mr George Cran, Mains of Lesmoir, who now owns the farm on which his ancestors have been settled continuously for two centuries.⁵

Before leaving the subject of Lesmoir Castle it may not be out of place to mention some archæological memorials which its owners have left in other places. The second laird had a daughter, Elizabeth, who married William Forbes, sixth laird of Tolquhon, a rather remarkable personality, who between 1584 and 1589, as recorded on its walls, carried out extensive additions to Tolquhon Castle.⁶ In the old church of Tarves, in which parish Tolquhon is situated, William Forbes built for himself and his wife a stately tomb, which still exists. It is in a curious mixture of Gothic and Renaissance styles, and displays his own initials and coat-of-arms in one spandrel of the arch, while in the other are his wife's initials, with the three boars' heads of Gordon impaled

¹ *The House of Gordon, ut supra*, p. 259 (107). I have ascertained that this stone is still there.

² *Ibid.*, p. 171 (19).

³ See Wimberley, *op. cit.*, pp. 99-100.

⁴ I owe this suggestion to Carrick Pursuivant.

⁵ See J. Anderson, *The Cran Family* (Huntly, 1908), also Henderson, *op. cit.*, pp. 167-8.

⁶ See my description of this castle in *Aberdeen University Review*, March 1925, pp. 120-35.

with the Tolquhon arms, and the superscription DOCHTER TO LESMOR.¹ Katherine Gordon, daughter of the third laird of Lesmoir, married Alexander Burnett, eleventh laird of Leys, who in 1596 completed the erection of the new castle of that family at Crathes. On the south front of Crathes Castle is a very fine group of three shields, the upper one showing the royal arms of Scotland, the lower left one displaying the arms of Alexander Burnett, ninth laird of Leys, impaled with those of his wife Janet Hamilton, with their initials and the date 1553, no doubt that of the commencement of the castle; while the right-hand shield has the Burnett arms impaled with those of Lesmoir—a fess-chequy between three boars' heads²—the initials of Alexander Burnett (the eleventh laird) and Katherine Gordon, and the date 1596. Over the old entrance door is their monogram, with the same date. The arms of Katherine Gordon, impaled with those of her husband, appear also at various places in the painted ceilings in the castle, and on one of the pendants in its vaulted hall. Among the old furniture in the castle is a magnificent oak four-poster bed, dated 1594. At the back it has a large panel showing the monograms of Alexander Burnett and Katherine Gordon, and the date 1594: on the canopy overhead are their portraits; while on the front of the canopy their monogram appears again, and the boar's head of Gordon is introduced at various other places in the rich carving. There is also an oak chair with a shield showing the three boars' heads but without the fess-chequy of Lesmoir; below are the initials K. G. and the date 1597.³

ESSIE CHURCH.

In the churchyard of Essie, about a quarter of a mile west of the castle site, no traces of the ancient church are now visible. Its foundations were grubbed up when the graveyard was put in order prior to 1890: the building was then stated to have been 36 feet in length and 15½ feet in breadth.⁴ The "high altar within the parish kirk of Essie" is on record in 1537, and again in 1550.⁵ The Lesmoir family had a burial-place within the church, for the Balbithan MS., in recording the death of James, eldest son of Sir James Gordon, son and heir apparent of the first baronet, states

¹ The tomb is illustrated by A. Jervise, *Epitaphs and Inscriptions in the North-East of Scotland*, vol. ii., frontispiece; also by N. K. Macleod, *The Churches of Buchan*, p. 131.

² The fess-chequy was derived from the family of Stewart, James Gordon of Lesmoir having married, *ante* 1521, Margaret, daughter of Patrick Stewart of Laithers. An old MS. chronicle of the family mentions a coat of these arms as being "yet to be seen on the house of Lesmoir" (Wimberley, *op. cit.*, p. 2).

³ All these subjects are illustrated in *The Family of Burnett of Leys*, ed. Col. James Allardyce.

⁴ J. A. Henderson, *Aberdeenshire Epitaphs and Inscriptions*, p. 163.

⁵ *Records of Aboyne*, pp. 67, 80-2.

that he was "honourably interred in the Kirk of Essy, 6th of August 1634"; and the same authority, as we have seen, chronicles also at an earlier period the burial there both of Jock of Scurdargue himself and of his natural son, Alexander.

About the middle of the churchyard lies an interesting old tombstone, now broken in two. It bears the full-length figures of a gentleman and his wife, carved in flat relief—he apparently clad in armour, and she in a high flat cap, ruff, and long full robe. Together they hold before them a large florid shield, on which are two coats-of-arms impaled; that in front of the lady being the Lumsden arms, a buckle between two wolf's heads couped in chief and an escallop in base, while the arms on her husband's half of the shield are defaced, though there is still traceable what seems to be a wolf's head couped. On either side are the initials I.D. and I.L., and round the border of the slab is the much obliterated inscription HER · LYIS · ANE · HONORABIL · MAN · IAMES · DVNCAN · OF · MARDRIM · QVH þE · SECVND · OF · NOVEMBER · IN · þE OF · GOD · 1601 · AND · I · LVMSDEL · HIS · SPOVS · QUHA The material of the slab is red freestone: its dimensions are 5 feet 9 inches by 2 feet 1 inch. James Duncan in Merdrum (which lies to the north-west of Lesmoir) was a wealthy wadsetter who liked to style himself laird: his wife, Janet Lumsden, was of the family of Cushnie.¹

Lying against the inside of the south wall of the old churchyard is a whin-mill stone, 3 feet 3½ inches in diameter and 8 inches in thickness, with a central hole 5 inches in diameter, checked for a stop on the shaft. The material is Rhynie freestone. (It may be mentioned that at Glack of Essie, further to the west, there is another whin-mill stone, which was in use in quite recent times: it is also in Rhynie stone, carved on one face and flat on the other, and measures 4 feet 5 inches in diameter by 11 inches in thickness. The central circular hole is 7 inches in diameter. This whin mill is now dismantled, but the circular course, lined with stones set edgeways, and measuring 17 inches in breadth, with an internal diameter of 11 feet 4 inches, still remains; in the centre the pivot stone, with its iron stang, is in position, and the wooden shaft, which still retains the iron swivel attachment, is used as a gatepost nearby.)

An interesting glimpse of the state of affairs in our district in the early part of the seventeenth century is furnished by a Minute of the Privy Council, under date 28th July 1625, granting a commission to Alexander, Master of Forbes, James Gordon of Lesmoir, and Mr James

¹ See *Scottish Notes and Queries*, November 1890, p. 104, where there is a good illustration of the stone: also Henderson, *op. cit.*, pp. 166-7.

Elphinstone of Barns, to search for, apprehend, imprison, and try Patrick Tower, Alexander Smith *alias* "Stowtie," David Reaugh, and George Reaugh his son, sometime in the Cabrach, whom the Presbytery of Alford had delated to the Council as "commoun and notorious thevis and vagaboundis, lieving vpoun thift, stouth, reaffe, and maisterfull oppressioun committit be thame upoun our goode subjectis within the parochine of Dauchindoir, Cabraugh, Ryne, and Essie, of whome being honnest houshalderis [some] ar be the violent stouthis and stouth reaffe of thir lymmaris broght to beggarie and hes skailled thair houssis, and the rest of the parrochynnaris ar constrained to keepe watcheis day and night for feare of thir lymmaris."¹

FURTHER NOTES ON AUCHINDOIR.²

Cnoc Cailliche Earthwork (p. 53).—*Cailleach* in modern Gaelic means an old woman, also a nun. Anciently *Cailleach Bheur* or *Cailleach Bheurr* was "the name of a colossal old deer-goddess, the best known in the Gaeldom, a being who could wade across the deepest straits—whose washtub was the mighty whirlpool of Corryvreckan—who could carry islands about with her in a basket." Possibly it is this goddess who is associated with our *Cnoc Cailliche*. Later the word *cailleach* was applied to the priestess of the deer-goddess. The curious old legend of the "Duel between Fleet-Hill-Foot and the Cailleach" has been edited and discussed at length by Mr J. G. Mackay in *Scottish Gaelic Studies* for September 1929.³ It is to be noted that in the version of the duel given by the *Inverness Courier* of 5th June 1873, the *Cailleach Bheurr* appears under the name of *Coinnseag* (the meaning of this word seems to be unknown), and is described as dwelling in one of the brochs of Glenbeg (Glenelg). This presumably carries the legend in its origin back to the early Iron Age. It is therefore interesting that the name of the *Cailleach* is associated also with a hill-fort in Aberdeenshire, as such structures in this part of Scotland are usually ascribed to the early Iron Age.

The Old Church of Auchindoir (p. 60).—Since my former account was published the ivy has now been partly stripped off the walls, with the result that several interesting features hitherto concealed are now exposed. In particular it is seen that the whole east gable above the splayed base has been rebuilt, and that the old Gordon stones have been reinserted. The skewstone at the south-east corner bears the arms

¹ *Reg. Privy Council*, 2nd series, vol. I. pp. 97-8. It does not appear that these "lymmaris" were ever laid by the heels.

² The page references in brackets are to my former paper.

³ Vol. III. pt. I. pp. 10-51.

of Davidson, a stag couchant between two piles reversed in chief and one reversed in base: accompanying the shield are the initials M W D for Master William Davidson, carved in relief, and the date 1638 incised.

Craig Castle (p. 79).—In the autumn of 1930 a mural closet (see Plan, fig. 3) was discovered and opened out at the north-east corner of the private room on the second floor of the old tower. The closet is entered from the private room by a door measuring 1 foot 11 inches broad and 4 feet 10 inches high, with a $3\frac{1}{2}$ -inch chamfer. From the present floor of the bedroom there is a step down of 6 inches. The closet measures 4 feet in length by 2 feet 4 inches in breadth, and is covered with an elliptic vault on an east-to-west axis at a height of 6 feet 7 inches. On the east side is a window, on the north an aumbry,

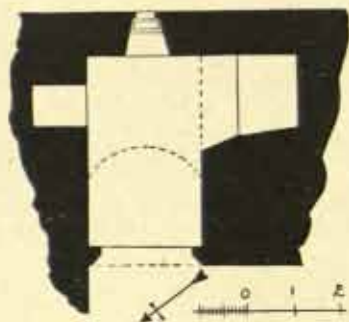


Fig. 3. Craig Castle: Plan of Mural Chamber in Tower.

and on the south a mural recess. The daylight measurements of the window are 1 foot $8\frac{1}{2}$ inches high and 5 inches broad. In its ingoing a small, carefully cut, stone basin, 6 inches long, 2 inches broad, and 1 inch deep, is formed in the sole. The aumbry measures 11 inches broad and 1 foot 2 inches deep, and is 1 foot 2 inches in height, its sole being at a level of 2 feet 8 inches above the floor. The recess on the opposite side has a sloping sill at a height of 1 foot 11 inches above the floor, and is 3 feet 9 inches high, 1 foot 6 inches broad, and 1 foot 4 inches deep. It is roughly lintelled over.

It seems most probable that this singular little closet formed a *prie-dieu* or small oratory. The recess would contain a crucifix, and on its sloping sill a prayer book would lie at a height just suitable for use when kneeling. The stone basin might be a stoup, and the aumbry would contain furnishings. There is an oratory in a similar position in the private room at the Castle of Tolquhon.¹

A window has also been discovered and opened up in the south wall of the main room at this level, to the east of the fireplace.

In one of the partitions which at present curtail the north end of the hall (p. 76) there is an old window (fig. 4) measuring 1 foot 6 inches broad by 1 foot 11 inches tall, made of leaded glass in lozenge-shaped panes of squares and oblongs set diagonally. The glass seems to be of medium thickness, perhaps $\frac{1}{16}$ inch, and is translucent, with a slightly greenish tint. The window in its present form has evidently made up part of a larger design. This glass appears to date from the late seventeenth or early eighteenth century.

¹ See my paper on this castle in *Aberdeen University Review*, March 1925, p. 128.

The Den of Craig (pp. 94-5).—Sir Thomas Dick Lauder, in his *Account of the Great Moray Floods of August 1829*,¹ has a most interesting description of the damage done in the Den of Craig. He gives particulars, with a sketch, of a huge boulder which was carried down the stream for a distance of about 300 yards. From his drawing it is possible to identify this boulder, which still remains where it came to rest on that memorable occasion, and retains its dainty growth of maidenhair fern just as described by him.

Corrigendum. A mistake occurs in the description of Towie Barclay Castle at p. 85 of my former paper. The access to the chapel gallery is, as correctly shown on Dr Kelly's plan, fig. 18, by steps down from the floor above the hall, and not, as stated in my text, by a mural stair up from the hall. The arrangement is an ingenious one, because the main newel stair could not have given access (as at Craig) to the chapel gallery unless the altar had been towards the west: therefore, to admit of an eastern position, the access to the chapel gallery had to come down from the second floor.

¹ Ed. 1873, p. 256.

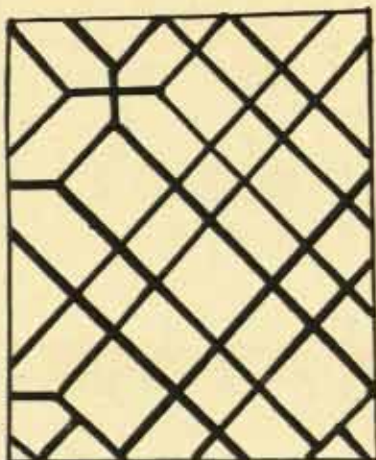


Fig. 4. Craig Castle: Leaded Glass in Tower.



MONDAY, 11th January 1932.

JAMES CURLE, LL.D., in the Chair.

A Ballot having been taken, the following were elected Fellows:—

J. M. DAVIDSON, O.B.E., F.C.I.S., 2 Lochview Terrace, Gartcosh, Glasgow.
 Lieutenant-Commander GEORGE EVELYN PAGET HOW, Royal Navy (Retired),
 28 North Bridge, Edinburgh.
 NEIL SHAW, General Secretary and Organiser, *An Comunn Gaidhealach*,
 Octavia Buildings, Kilmacolm.

The following Donations to the Museum were intimated and thanks voted to the Donors:—

(1) By The Hon. Lady BINNING, Tynninghame House, East Lothian,
 through JAMES S. RICHARDSON, F.S.A.Scot.

Massive Stone Axe-hammer, measuring $10\frac{5}{16}$ inches by $3\frac{9}{16}$ inches by $3\frac{1}{8}$ inches, from Turriff, Aberdeenshire.

Large Stone Axe-hammer, measuring $6\frac{3}{16}$ inches by $2\frac{7}{8}$ inches by $2\frac{11}{16}$ inches, of unsymmetrical shape, one side being more convex than the other, from Aberdeenshire.

Stone Axe-hammer with a pointed butt end and broad cutting edge, the hole countersunk from both sides, measuring $5\frac{5}{8}$ inches in length by 2 inches in thickness, and $3\frac{9}{16}$ inches across the cutting edge, from Rhynie, Aberdeenshire. A cast of this object (AH 58) has long been in the Museum.

Oval Pebble with a countersunk perforation in the centre, measuring $2\frac{3}{4}$ inches by $2\frac{1}{2}$ inches by $1\frac{5}{16}$ inch, from Auldearn, Nairnshire.

Stone Cup of steatite, with vertical sides and decorated with an incised herring-bone pattern round the lip, measuring $4\frac{1}{8}$ inches in external diameter, and 3 inches in height. There is a handle with a small vertical perforation projecting $1\frac{1}{8}$ inch from one side at the lip. Found in a cairn at Knockwhern, Echt, Aberdeenshire, in 1820.

Stone Cup of steatite, with straight sides converging slightly towards the bottom, measuring $3\frac{7}{16}$ inches in external diameter across the mouth, $2\frac{1}{8}$ inches across the base, and $2\frac{1}{2}$ inches in height, and decorated with a band of incised vertical lines between single marginal lines, just under the lip. There is a partially perforated handle projecting $1\frac{1}{4}$ inch from the centre of one side. Found in a garden in Park Street, Aberdeen, in 1880.

(2) By JAMES S. RICHARDSON, F.S.A.Scot.

Large globular Leather Flask, measuring $15\frac{1}{2}$ inches in diameter, said to have been used by smugglers at Dess, Aboyne, Aberdeenshire.

(3) By WILLIAM FORSYTH, F.R.C.S.E., F.S.A.Scot.

Horn Snuff-mull with an iron band round the mouth. Attached to the horn, by brass chains, are a small mallet and a snuff spoon, also of horn. There is a third chain for a brush, but this is wanting. From Aberdeen.

Wooden Goat Bell, taken off a goat in the jungle at Balasore, Bengal, India.

(4) By JOHN R. W. CLARK, F.S.A.Scot.

Two Communion Tokens—East Church, Aberdeen, 1831, and 2nd Utd. Assoc. Cong., Arbroath, 1822.

(5) By W. NICOL, Goudierannet, Kinross.

Flanged Bronze Axe, measuring $6\frac{1}{2}$ inches in length, $2\frac{3}{8}$ inches across the cutting edge, $1\frac{1}{2}$ inch in depth at the centre, and $1\frac{3}{8}$ inch across the flanges. There is an incipient stop ridge in a thickening of the axe about the forepart of the flanges, and, in front of this, a slight oval moulding. The axe is not patinated. Found by the donor, in 1930, on the farm of Goudierannet.

(6) By Miss NICHOLSON, Tweedview, Berwick, through J. HEWAT CRAW, Secretary.

Calcined Flint Scraper, measuring $1\frac{1}{2}$ inch by $1\frac{1}{2}$ inch, found with cremated human remains in a rock-cut grave in the South Cairn, Coldsmouth Hill, Kirknewton, Northumberland (near Yetholm).

Saw of black Flint, measuring $2\frac{1}{2}$ inches by $1\frac{1}{4}$ inch, found with cremated human remains in a cist in the North Cairn, Coldsmouth Hill, and part of a thin Plate of Bronze with a small rivet in it, found under the cairn on the original surface of the ground, 8 feet west of the cist. (See *History Berwickshire Naturalists' Club*, vol. xxvii., part 3, p. 379.)

(7) By Mrs HUGHES HALLETT, 2 Campbell Avenue, Murrayfield, Edinburgh.

Pair of Linen Sheets between which Prince Charles Edward is said to have slept in Newton House, Doune, on the night of 12th September,

1745. The sheets were preserved by Robina Edmonstone, a daughter of the house, and an ancestress of the donor. (See *The Stewarts*, vol. vi., p. 162.)

(8) By CHARLES B. BOOG WATSON, F.S.A.Scot.

"Solitaire" Board, measuring $7\frac{7}{8}$ inches in diameter, with a box of bone pins, instead of glass balls, for playing the game.

(9) By Dr A. MACPHERSON, 9 Bellevue Crescent, Edinburgh.

Seven Stone Axes, measuring $2\frac{9}{16}$ inches, $2\frac{9}{16}$ inches, $2\frac{3}{16}$ inches, $2\frac{1}{8}$ inches, $2\frac{1}{8}$ inches, 2 inches, and 2 inches in length; parts of two Polishing Stones for grinding stone axes; Whetstone of triangular section, with notches on two of the angles, measuring $3\frac{1}{8}$ inches in length; irregularly shaped Stone with indentations on both faces; three pieces of Iron Slag; part of the Clay Twyere or nozzle for the blast of a native furnace for smelting iron, measuring $6\frac{1}{2}$ inches in length and $3\frac{3}{8}$ inches in external diameter, and a small segment of another, coated on the inside with iron slag. All from Bekwai, Ashanti, 20 miles south of Coomassie.

Broken Stone Object with incised longitudinal and transverse lines on one face, and pitted on the other, measuring $2\frac{3}{4}$ inches in length, from Kintampo, Ashanti, 130 miles north of Coomassie.

It was announced that the following object had been purchased for the Museum:—

Bronze Dagger with a narrow rapier-like blade, and spud-shaped base showing two rivet holes, one broken, measuring $8\frac{1}{4}$ inches in length, the blade being $\frac{11}{8}$ inch in breadth and $\frac{1}{4}$ inch in thickness at the centre. Found at the mouth of a rabbit's hole on Turnercleuch Law, Berrybush, Yarrow, Selkirkshire.

The following Donations to the Library were intimated and thanks voted to the Donors:—

(1) By W. D. LIGHTHALL, F.R.C.S., c/o The Royal Society of Canada, Ottawa, the Author.

The Remoter Origins of the Iroquoian Stock. From *The Transactions of the Royal Society of Canada*. Third Series. Vol. xxv., section ii. 1931.

(2) By H.M. GOVERNMENT.

Sixty-first Annual Report of the Deputy Master and Comptroller of the Royal Mint, 1930. London, 1931.

(3) By THE SECRETARY, the Manx Museum.

The Journal of the Manx Museum. Vol. ii., No. 29. December 1931.

(4) By THE DIRECTOR OF THE MUSEUM, Valletta, Malta.

Bulletin of the Museum. Vol. i., No. 3. Valletta, 1931.

The following Communications were read:—

I.

NOTES ON A ROMANO-BRITISH CEMETERY IN HERTFORDSHIRE.

BY W. PERCIVAL WESTELL, F.S.A.Scot., F.L.S., M.R.A.I.

Hertfordshire, one of the Home Counties of England, has proved itself possessed of a great many records of occupation during the Roman period in Britain, and an inventory of the discoveries I have recently compiled shows no less than one hundred places in the county from which remains have been obtained. It has to be observed that the greater number of "finds" have occurred in the north and north-east of the county, and many more or less follow the line of the Icknield Way.

This county, Charles Lamb's "Hearty, homely, loving Hertfordshire," has within its borders at least six ancient roads, namely, the Akeman Street, the Ermine Street, the Icknield Way, the Stane Street, the Watling Street, and a sixth roadway to which no definite name has been allocated. It also has, as you will know, the remains of Verulamium, where excavations have recently attracted so much attention.

The Romano-British cemetery with which this paper is concerned is situate at Baldock, in northern Hertfordshire, between Letchworth and Royston, in the north-western corner of a triangle formed by the crossing of the Icknield Way by the Stane Street, the site, known as Walls Field, being farm land, now the property of the Hertfordshire County Council under their Small Holdings Scheme.

The area of the field wherein the cemetery is situate is about 40 acres, and the whole of it, more or less, and indeed the areas adjoining, have revealed evidence of Roman times. Is it too much to suggest that a lost Romano-British town is in the vicinity?

Systematic excavations upon Romano-British cemetery sites have been few in number, and if one mentions the cemeteries at Colchester, Essex, and Ospringe, near Faversham, Kent, there really only remains the third one at Baldock to which any serious attention has been directed. Haphazard and unsystematic excavation has, as is well known, resulted in a great many disassociated objects being discovered up and down the country. Many of these have been lost, stolen, or strayed, and authentic records concerning them are difficult to obtain, so that one has to rely for authentic information upon the few sites that have, so far, been diligently and scientifically explored.

The archæologist has, as you know, to depend in many instances upon *chance* finds to direct his attention to an otherwise uncharted site, and whilst aerial photography, contour, intuition, experience, and other means have resulted in remarkable discoveries being made, in the case to which consideration is now being given, "chance" at first played an important part. Lack of funds has also, of course, prevented even well-known sites from being explored, and the time seems ripe—at least in England—when there should be some sympathetic and nationally constituted body to whom applications for grants to enable the necessary labour to be employed could be made with a fair chance of success.

In the case under review, the lack of financial aid has been encountered, in spite of the remarkable results that have been obtained, but it has meant a labour of love, coupled with very hard work, especially when, as I now make known, the whole cost of seven seasons' work has not exceeded forty pounds, and this amount was subscribed by private individuals and the Regional Society I represent.

Intensive cultivation by the tenant smallholder, Mr William Hart, resulted, in the spring of 1925, in the unexpected discovery of a cinerary urn and four associated objects—a jug, two beakers, and a large bowl—constituting a burial group of the early second century A.D. These objects were turned out by the plough only nine inches beneath the surface, and although Walls Field had been previously farmed by one person for a great number of years, only odd coins had been discovered, and the new spirit of field archæology had not then arrived. Fortunately, within hail of Baldock there is a Regional Museum of which I have been Curator since its inception in 1914, and when I was consulted as to the objects turned out by the plough in 1925, arrangements were at once made for excavation work to take place under my supervision, as and when the site was available. Seven seasons' work has, as is indicated, taken place, and the results have far exceeded the most sanguine expectations, for three hundred and twenty burial

groups have already been discovered, together with objects representing at least one hundred other groups, which, owing to inhumation being resorted to at a later period, smashed beyond recall these other unassociated objects.

The whole of the objects discovered have been deposited through the public-spiritedness of the Hertfordshire County Council in Letchworth Museum, and, under the reorganisation scheme now being carried out at this Museum under a grant for this purpose made by the Carnegie United Kingdom Trust, the more presentable burial groups and miscellaneous objects are now systematically arranged for the benefit of students of Roman Archæology, school classes, and the general public.

This cemetery site is situate at the foot of the south-eastern range of the Chiltern Hills. The ground constituting Walls Field slopes very gradually to the west from the remains of a Saxon baulk, now used as a pathway, but to the east of this there is an acute rise in the ground, which, within a very short distance, obscures the view beyond.

There was no indication above ground of the priceless treasures hidden beneath, and the burial groups were located by exploration in small pit graves holed out of the chalk, some being only 1 foot below the surface, whilst others were found at a depth of 3 feet 6 inches. The average depth at which the groups were discovered was 2 feet 6 inches, and where they had remained undisturbed throughout the centuries they were, except in a few instances, about 3 feet apart.

Here I may interpolate that trial trenches made elsewhere on Walls Field have revealed a Roman well, crude flint foundations of a building, and an extensive rubbish pit.

It is not necessary on the present occasion to mention in greater detail the actual plan of campaign, as it is rather the intention of this paper to place before you a conspectus of the results obtained, with supplementary notes of a general character. I should, however, like to add that a straightforward plan of work was not possible following each season, owing to growing crops, and the site yielding grave-goods had gradually to be pieced together as opportunity occurred. The area so far explored is 965 square yards, and whilst at present it seems, as a result of a fortnight's investigation in August 1931, that the cemetery site has petered out, it may be that its location has been temporarily lost owing to what may prove to be a roadway intervening.

Several of the burial groups discovered were placed very close together. Except in one or two instances, no attempt had been made to cover the objects except with earth, and all the vessels, with two

exceptions, were full of earth, flints, and chalk. The cremated remains occupied about one-half to one-third of the vessel in which they were contained, but in some instances the urn was almost full of remains which suggested a very poor cremation. No traces of teeth or skulls were found with any of the cremations.

As evidence of the richness of the cemetery, two hundred and twenty-six cinerary urns, jugs, beakers, bottles, lamps, and other objects representing eighty-six groups were excavated in less than a month, in March and April 1928. The perfectness of these objects is worthy of note, hardly any of these requiring restoration.

In some cases solitary urns were discovered without any associated objects. There were no Samian ware vessels with any of the two-piece groups, as these latter only appear with the three or more piece groups, and whilst coarse ware cooking or store pots were, in the majority of cases, used to contain the cremated remains, in one instance (Group 89) there was a Samian ware bowl, Drag. 37, with *SACRILLUS* and *DÆCCUS* both inscribed upon it. This was apparently a woman's burial, as forty-four beads of pinkish glass, gilded, forming part of a necklace, were contained in the bowl. In other instances (such as Groups 32, 38, and 60, eight-piece and eleven-piece respectively) the cremated remains were in the pit grave with the associated objects, but were unenclosed.

The largest burial group (No. 10) consists of thirteen objects, and this is, I believe, with one or two exceptions, the largest grave group so far recorded from Britain.

I now propose to describe a few of the more interesting groups which have been unearthed.

GROUP 3.—*Five associated objects. Early second century A.D.*

This was the group disinterred by the plough as already recorded. It consists of a cinerary urn, a jug, two perfect beakers and a coarse, buff ware bowl (fig. 1). The latter has a diameter of 12 inches and a depth of $4\frac{3}{8}$ inches. I have failed to trace any evidence of a vessel similar to this having been discovered elsewhere.

GROUP 9.—*Eight associated objects. End of first century A.D.*

This group, except for a cinerary urn, is quite perfect, and none of the objects have been restored. There are a pair of urn-shaped vases of smooth greyish-brown ware, a Samian cup and dish (Drag. 27 and Drag. 18 respectively), and a tall white ware flask. Its height is 9 inches.

GROUP 296.—*Six associated objects.*

This group, it is suggested, represents the burial of twins, as a small coarse ware urn containing cremated remains was accompanied by two small model amphoræ, two small grey ware dishes, and a joint beaker or drinking vessel. This has proved to be one of the most attractive grave-groups in the collection.

GROUP 51.—*Four associated objects.* 117-161 A.D.

This group was fortunately undisturbed, but the previous ten groups



Fig. 1. Pottery Vessels from a grave at Baldock (Group 3).

were mostly badly broken *in situ*, and several were jumbled close together. Group 51, however, is more or less perfect (fig. 2). This is a very interesting burial as the larger urn was purposely broken so that the smaller grey ware urn could be placed inside the larger one, and in this position it was found. Both vessels contained cremated remains. The pink ware jug, it is suggested, was a baby's feeding jug. This strengthens the opinion that here was the burial of a mother and child.

GROUP 65.—*Seven associated objects.* Circa 160-190 A.D.

In addition to this group having two glass decanters, in the smaller of which staining by liquid is discernible, there is a perfect black-coated thumb pot, and white ware beaker, a bone hollow object of unknown use, and bronze casket fittings. As there was no urn, and

the cremated remains were found close to the casket, it is suggested that the remains were placed *within* the casket. The way in which the highly polished indented beaker has weathered the centuries is worthy of note.

GROUP 69.—*Seven associated objects. 180-200 A.D.*

The feature of this group is two jugs and a hare and hound Castor ware vase, the hare and hound being in dotted panels with floral scroll.



Fig. 2. Pottery Vessels from a grave at Baldock (Group 51).

GROUP 102.—*Seven associated objects. Circa 150 A.D.*

The distinguishing characteristic of this group is the three glass decanters (fig. 3). The tallest is 12 inches in height, and has a moulded circle on the base containing the large letters M.A.P.; another decanter has two handles. The cinerary urn is the smallest one so far discovered, and is quite perfect. It is only 7½ inches in height, and of light buff ware.

GROUP 108.—*Four associated objects. Early second century A.D.*

It is not necessary to dilate on this group except to draw attention to the Rhenish ware vase, or dice cup, which is contemporary with one discovered at the Ospringe cemetery, though in the latter

case two ivory dice and twenty-four counters were found. The vessel is decorated with ears and blades of corn between a dotted panel.

GROUP 273.—*Three associated objects.*

This group consists of a cinerary urn, together with a small Samian cup, which formed a lid for an ovoid black-coated vase. With one exception, this vase was the only vessel devoid of earth and stones, the other one being a very large cinerary urn containing cremated remains, a Samian dish—potter's name *Reginus*—serving as a lid. Incidentally, this large globular urn took me two hours to disinter in pouring rain.



Fig. 3. Vessels of Glass and Pottery from a grave at Baldock (Group 102).

GROUP 309.—*Four associated objects.*

This group will in future be known as the Baldock Curse Group, as it contains a leaden tablet with a curse inscribed on it. The tablet is of irregular shape, and measures about 4 inches in length and depth. This is the fifth curse found in Britain, and Mr R. G. Collingwood's conjectural translation of the four lines of inscription—written from right to left—is as follows:—

VIIITHS
QVOMODO . . . I . IIS
SIGNIFICATVR
TACITV DIIFICTA

Mr Collingwood suggests that the general sense is perhaps to the effect that "TACITA, OR BY WHATEVER OTHER NAME SHE IS CALLED, IS HEREBY CURSED." The form of the urn with this

Curse Group was seen practically complete *in situ*, but on being carefully lifted piece by piece, it was found to consist of ninety pieces, and has been very cleverly restored at the British Museum.

Amongst the other relics found, mention may be made of a bronze enamelled toilet set consisting of an ear-pick and a nail-cleaner, the tweezers which doubtless accompanied these being amissing; a very delicate Rhenish ware vase decorated with drooping ears and leaves of corn (fig. 4); and a hare and hound cup with a handle.

It is important to note that in every group which has come under my notice a piece was purposely broken from at least one of the objects, so that, as I understand, the ghost or spirit of the object could be released with the spirit of the departed.



Fig. 4. Vase of Rhenish ware from Baldock.

Very few coins were found with the burials. In one case, with an inhumation, there was a coin of Domitian, A.D. 81-96, in the mouth of the skeleton, but we have a collection of coins from the site picked up at odd times which ranges almost throughout the whole of the Roman occupation of Britain.

At least sixty potters' names have been interpreted from the Samian ware represented in the burials, and for working out these I have to acknowledge indebtedness to Mr G. C. F. Hayter, but it does not come within my province to deal with them on this occasion.

The value to archaeological science of this discovery will, I believe, meet with your blessing. It is an earnest of what can be done with limited funds, provided that there is a combination of interest, enthusiasm, and hard work, and to a Hertfordshire man such as myself, who, nevertheless, claims that his forebears fought and died for Charles Stuart, you may well imagine the privilege it has been to take an important part in this interesting discovery. The romance and interpretation of it all will be patent to you. Often, when digging, I have conjured up a mind-picture of what these people, whose remains have been handled after being hidden for so many centuries, were like. Fortunately, not far away in a Romano-British cemetery at Welwyn, Herts, there was discovered a pipe-clay statuette buried with a Roman lady, obviously of high rank. This is also in Letchworth Museum, and forms part of a most interesting burial group.

As a matter of interest I conclude my paper by referring to the very beautiful Belgic cordoned urn discovered at Letchworth—within half

a mile of our Museum—in September 1912, which was described in the *Proceedings of the Society of Antiquaries of London*, 2nd series, vol. xxvi. This late Celtic urn contained cremated remains, and a bronze connecting-link of a belt. The latter has an irregular trigram in the open-work centre, with two dots on the front, and is plain at the back, similar, I believe, to one which, appropriately enough, you have in this museum from Dowalton Loch Crannog, Wigtownshire.

The association of the bronze object and the cinerary urn is important from the chronological point of view, and my apology—if such is needed—for including this in my paper must be that I could not resist the opportunity of referring to what we in Letchworth Museum consider to be the *pièce de résistance* of our collection of regional antiquities.

II.

INTERIM REPORT ON THE EXCAVATION OF A BRONZE AGE DWELLING AT YARLSHOF, SHETLAND, IN 1931. BY A. O. CURLE, C.V.O., F.S.A. SCOT.

On the western side of the narrow isthmus which links Sumburgh Head, the most southerly point of Shetland, to the mainland, a low headland projects into the Voe of Sumburgh and forms the southern extremity of an inner bay. On the crest of this headland stands the gaunt ruin of a dwelling-house of no great antiquity, to which Sir Walter Scott in *The Pirate* gave the name of "Yarlshof" in substitution of its older title "The Lord's House." The land on the isthmus, to judge from the head of cattle which it carries, must afford good pasturage. So with fishing in the sheltered waters of the Voe, and pasture ground to landward, the site must have had attractions for settlers from the earliest times. Whatever the antiquity of the Yarlshof may be, which is uncertain, it has been but the latest of many structures on the site. Over an area of at least an acre, generously ceded to the nation by Mr Bruce of Sumburgh, the proprietor, and enclosed by His Majesty's Office of Works, there is ample evidence of occupation over many centuries in deposits of kitchen-midden refuse of great extent, and in the existence of foundations and excavated ruins.

Towards the end of the last century and previous to 1897, a series of violent storms revealed evidences of masonry on the seaward front of the headland, which Mr John Bruce, the late proprietor, in due course proceeded to explore. The result of the examination of this

part of the site was the discovery of a range of prehistoric dwellings of unique character, and in a remarkable state of preservation, stretching along the shore-line for a distance of over 160 feet and with indefinite extension landwards. The centre of this range was a broch, reduced to a height at most of 7 feet, and by the erosion of the coast, destroyed to the extent of about one-third of its circumference. The interior of the broch contained the remains of a secondary building, and of the same character were obviously the greater part of the structures



Fig. 1. Commencement of Excavation.

beyond its periphery. The excavations were duly reported in our *Proceedings* with plan and illustrations in 1906,¹ and need not detain us further here. The site having been handed over to the care of H.M. Office of Works, I was requested on behalf of the Ancient Monuments Department to undertake its further exploration.

After some preliminary examination of the refuse mound to the north-west of the previous excavations without finding any definite indications of structure beneath, my attention was directed to a hole situated some 60 feet to the eastward of the ruins of the Yarlshof and some 40 yards back from the sea-front, in which there was revealed building extending to a depth of some 3 to 4 feet below the present surface. This hole had been made on a proposed line of an enclosing

¹ *Proceedings*, vol. xli. p. 11.

fence, but the Inspector of Ancient Monuments, recognising the importance of the remains revealed in it, had procured an alteration in the boundary line. Here, therefore, were indications which induced me to commence operations on this spot (fig. 1). It was soon made clear that

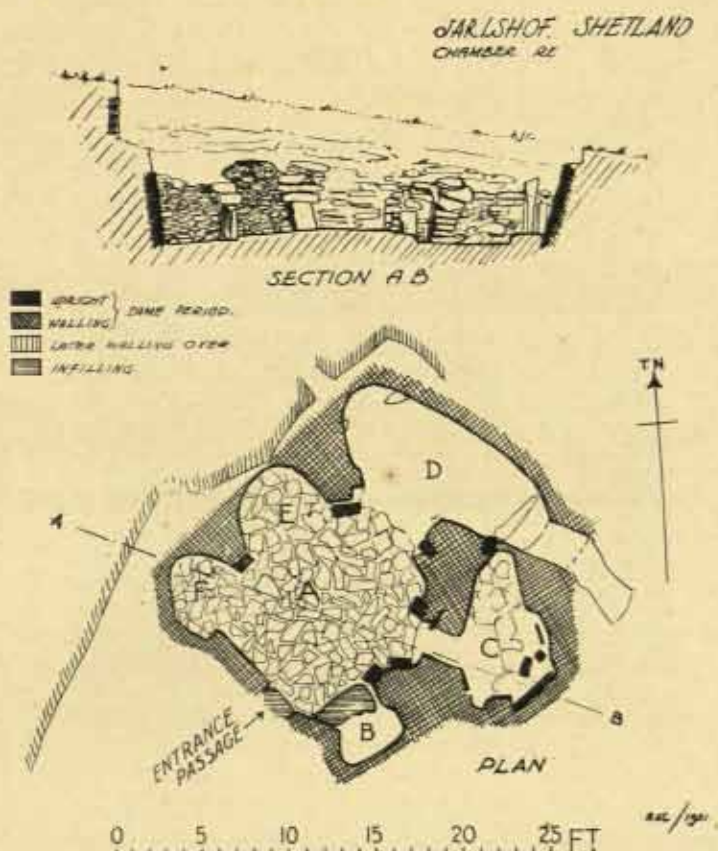


Fig. 2. Plan and Section.

the site had, from time to time, been in occupation over a long period, and so before the earliest buildings could be explored it was necessary to examine and ascertain the importance of the superimposed structural remains. The position of the hole in relation to the dwelling subsequently excavated was slightly to the north of the letter C on the plan (fig. 2). Some 3 feet to the east of the opening and not far below the turf there was encountered the angle of a foundation formed of large boulders, lying on broken material, which in turn rested on natural sand. Being obviously a late foundation, it was planned, photographed,

and removed. Similarly to the northward, over what ultimately proved to be the north-west end of chamber D, a paving of large flags was uncovered at a depth of about 2 feet beneath the adjacent surface, extending north-east for a distance of some 7 feet with a width of 2 feet 9 inches, and outlined with upright slabs firmly wedged in on its south-west side (fig. 3). An exploration to the northward revealed that this paving was a fragment of some structure destroyed by a much later building, which, running in a south-westerly direction, seemed to have



Fig. 3. Secondary Paving and Uprights with later wall in the background.

had some connection with the Yarlshof. The paving was consequently also planned, photographed, and removed. In the course of this last operation there was found a small segment of an armlet of polished steatite. As an armlet of similar material was found in the broch of Dun an Iardach in Skye,¹ and now in the National Museum of Antiquities, the paving may conceivably have been referable to the Broch period.

The clearing of the chamber originally entered (C on plan) was now proceeded with. It was irregular in shape, terminating in a sharp angle towards the north, and broadening out in the opposite direction, and measured 9 feet in length by 5 feet in greatest breadth. The wall towards the exterior stood to a height of from 4 to 5 feet, carefully constructed with large, flat, water-worn stones, with the addition at one

¹ *Proceedings*, vol. xlix. p. 67.

point of a large upright slab firmly set in the ground, as in some megalithic sepulchral chambers (fig. 4). At no place were pinnings employed to fill the interstices between the stones, a detail in which the building differed from that of the adjacent broch and its secondary erections. The wall-head reached to within a foot of the present surface on the south and east sides of this chamber, and, where uncovered, it was observed that whereas on the exterior it presented a finished or regular surface in respect of the upper course or two, beneath it was



Fig. 4. Chamber C looking inwards.

composed of rough boulders, obviously built into the sand, which was still in its natural condition, in their immediate vicinity except as after stated. It is obvious, therefore, that when this dwelling was complete the surface of the soil in this direction was little more than a foot below what it is at the present time, and that the roofs projected well above it. Yellow clay had been used in the wall of this chamber to a height of 3 feet 2 inches above floor-level, obviously to prevent the percolation of water. As the wall rose upward on the inside it sloped backwards, showing a departure from the perpendicular of some 8 inches at the wall-head, a style of construction noticeable also in the building secondary to the broch. A pier with large flat stones on top projected about a foot from the face of the wall on the south, and a tall monolith, the top of which was about 3 feet 6 inches above the floor-level, stood

out a foot from the wall on the east, both obviously connected with the roofing arrangement, which, from the analogy of the secondary buildings on the sea-front, had probably been by corbel vaulting. The floor was entirely covered with a sandy clay burned to a bright red colour, and partially paved (and that on the south side only) with flags. At a short distance out from the east wall a hearth had been formed on the top of a large stone, and a thin flat slab, as if to form a fire-back, had been placed behind it with its base set in a bed of yellow



Fig. 5. Sheep Bones beneath wall at entrance.

clay, and its edge carefully packed in against the adjacent upright with small boulders. Burnt clay covered the hearth, and from this there were recovered numerous carbonised grains of a species of barley, probably bere. All over the surface of the floor, above the red clay and to a much less extent within it, there lay bones of sheep and of oxen, and also some bones of birds. There were a few limpet-shells, but none of any other species, among the food remains. Partially beneath the wall, on the right of the inner end of the passage leading out of this chamber, lay the head and horn-cores of a sheep, and lying around were numerous sheep bones, though not an actual skeleton (fig. 5). In clearing out this chamber, at a depth of 4 feet, there was found a saw, or possibly a sickle, of slate 6 inches long by $1\frac{1}{2}$ inch broad, with a finely serrated edge and a curved back, and with

a notch near the base as if for a thong to attach it to a handle. Scrapers fashioned from quartz pebbles were found at various depths, and at the bottom hard heavy pottery with much stony grit in the body, and some of it blackened and polished on the exterior surface, but in no case was any decoration observed on the pot. A chisel of bone formed from the leg bone of a sheep, cut diagonally across and with the terminal process hollowed out to form a socket, a relic of Maglemosian type, was found near the bottom, and there were also



Fig. 6. Main Chamber with entrance to Chamber C, "ash-pit" and blocked entrance on right.

recovered at various depths implements and flakes of stony slate. Remains of saddle querns and rubbers were found, but there was no trace of a rotary quern. A short passage 2 feet 6 inches in length and furnished with door checks led out of this chamber into a large central chamber measuring some 10 feet long by 9 feet 6 inches broad (A on plan), out of which there opened further cells and chambers (fig. 6).

On clearing this out, the entrance to the dwelling was discovered, the position of which had been hitherto anticipated from the thin layer of clean sand which, coming from the south-west, lay over the floor beneath the fallen flat stones of the superstructure. It is situated towards the southern end of the south-west wall, measures 2 feet across, and is at right angles to the sea-front. It is still blocked by three flat stones, which lie so truly horizontally as to suggest that the

blocking has been intentional; but that fact can only be ascertained after further exploration. The blocked entrance will be seen just to the right of the illustration (fig. 6). The floor of the central chamber, and also those of two round chambers that open off it to the north-west (E and F on the plan), are carefully paved with a double layer of paving slabs laid on yellow clay.

On the right of the entrance is a small cell (B on plan) with a straight wall at the back, and measuring at ground-level 4 feet long



Fig. 7. Pierced block of Sandstone.

by 2 feet 6 inches broad (see fig. 6), which has been covered with a separate roof, as is indicated by a large stone remaining in position across the south angle. Across the front of this cell, above a large boulder placed on the floor, there has been erected a very loosely built wall, showing that no regular access into it was contemplated. In clearing it out there was found at the bottom a deposit some 8 to 9 inches deep, composed chiefly of peat-ash intermingled with a certain amount of burnt bone and black carbonised matter, but with no indication of fire having been lit within it or of its use as a forge. From this deposit there were recovered many fragments of clay moulds which had been used for the manufacture of bronze swords, bronze socketed axes, and other objects. From it there also came roughly fashioned stone axes of the Shetland type, hammer-stones abraded at the end, scrapers of white quartz,

portions of slate saws, and from near the bottom a large rectangular block of sandstone pierced at one end as if for a rope, and such as might have been used as an anchor (fig. 7). It is said that a similar stone was found at the broch of Clickemin. From the very bottom there was recovered a four-sided stone vessel with rounded corners, fashioned of fine-grained sandstone, measuring over all some $4\frac{1}{2}$ inches by $3\frac{1}{2}$ inches by 2 inches in height. The blackening of the external surface on the sides showed that, in the first instance, it had been used on the fire, but from the appearance of the under side of the base it is obvious that it had been subsequently employed as a rubber and the bottom worn away. Several large pebbles of quartz—one of which had been used as a hammer-stone—and a neatly fashioned knife of slate stone were also found in this cell. From holes in the wall were extracted two scapulæ of sheep, one of which had obviously been used as a shovel (fig. 8). An object of unknown use made from one of the lumbar vertebræ of a sheep was also found. A perforation had been made through its upper and lower surfaces, and a small pin of bone was found inserted into one of the vascular foramina,



Fig. 8. Scapula of a Sheep which has been used as a shovel.



Fig. 9. Perforated Sheep's Vertebra with pin inserted in foramen.

for which it appeared to have been fashioned (fig. 9).

Following the south-west wall northwards from the entrance, a circular recess or cell was found (F on plan) occupying the west corner of the dwelling. It measures 3 feet 9 inches across the entrance and 4 feet in depth. As previously mentioned, the floor of this chamber was carefully laid with paving-stones on a bed of yellow clay. There was only slight evidence of burning on the surface of it. In clearing out the interior on the lowest level, six pieces of one or more clay moulds were recovered, notably a piece $2\frac{3}{4}$ inches broad and long—part of a mould for a bronze sword. There

were also found a stone axe, roughly flaked on one side only, and a piercer of bone formed from the astragalus of a sheep, and a few animal bones. Immediately to the north-east of this cell is another (E on plan), similar in form, measuring 5 feet 6 inches across the front and 4 feet 3 inches from front to back. The floor was also paved in the same manner as the last, but there were no indications of burning on it, and it contained very few bones and practically no relics. Forming the north-east side of the dwelling is a long oval



Fig. 10. Chamber D as seen from Chamber C.

chamber (D on plan), entered by an entrance 4 feet wide from the main chamber. It measures 13 feet 6 inches in length by 5 feet 3 inches in greatest breadth, and the wall all round stands to a height of from 3 to 4 feet (fig. 10). At the south-east end on the floor-level a large pointed boulder has been laid in the floor reaching from wall to wall at a distance of about 1 foot 4 inches from the end, and rising to a height of 7 inches, thus forming behind it a manger-like enclosure (fig. 11), which appears to have been about 8 inches deep, as indicated by two slatey stones lying horizontally and partially beneath this kerb. There was considerable indication of fire in front of this stone, but much less in the enclosure behind it. At the opposite end of the chamber three stones were set in alignment across the floor at a similar distance from the end—two projecting from the opposite walls, and the third set

between them. In the side walls behind the projecting stones spaces had been left in the walling about the size of the respective stones, viz. $10\frac{1}{2}$ inches and 2 feet 3 inches. Between the lower courses in the wall of this chamber yellow clay was also observed to a height of 1 foot 5 inches from the floor. The floor was not paved, but covered with sandy clay burned red, though not to such a brilliant colour as on the floor of chamber C. There were not many bones found upon it, nor many relics. Among the latter, however, was an adze-shaped



Fig. 11. South-east end of Chamber D, with back of unexcavated structure beyond.

axe of grit $6\frac{1}{2}$ inches long by $1\frac{1}{4}$ inch at greatest breadth, fashioned from the segment of a large circular vessel which had been blackened by fire, the sooty encrustation still remaining on the back of the axe, which had obviously never been used. A portion of a clay mould for casting some indeterminate object in bronze was also found. Within the enclosure at the south-east end of the chamber there was recovered a large heart-shaped object of sandstone, measuring $8\frac{1}{4}$ by $9\frac{1}{4}$ inches, with a circular perforation towards the centre of the broad end (fig. 12). Throughout the excavations at floor-level, and especially from a foot or two above it, broken examples of similar objects frequently came to light, usually of slate, but in one or two instances of sandstone, the number found amounting to between thirty and forty. A similarly fashioned slaty stone from an unknown provenance, measuring 1 foot by $11\frac{1}{2}$ inches,

also perforated at the broad end with an oval hole 3 inches by $1\frac{1}{2}$ inch and placed eccentrically, is in the Goudie Collection in Lerwick. So far the use of these objects has not been revealed, but the presence of so many within the dwelling seems to indicate that as being connected with the structure.

At the south-east end of this north-east chamber the faced wall on either side had been prolonged for a distance of 2 feet 6 inches, as if to form an ambry or cupboard, but previous disturbance caused at this point prevented any conclusion being reached as to the purpose intended thereby. Exploration carried beyond the finished face revealed on the south-west the back of the wall of chamber C, and, as shown

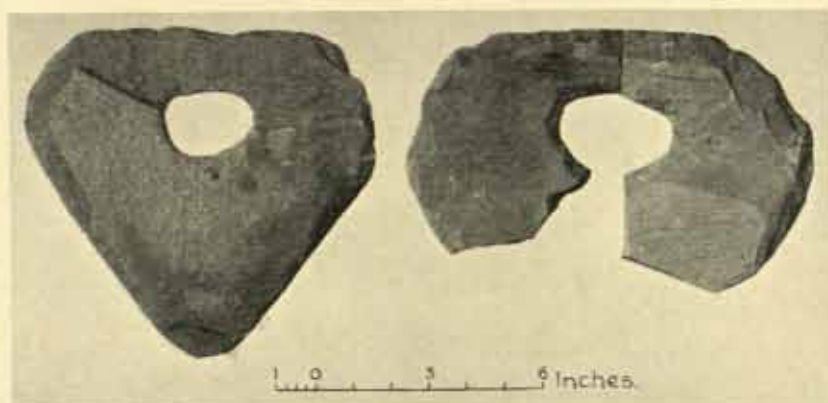


Fig. 12. Heart-shaped object of Sandstone and fragments of a second.

in fig. 11, boulders which appear to form the back of the wall of another structure to the north-east. The sand between these two walls was discoloured, and contained a number of flaked slates.

It was obvious that some disturbance had at one time taken place in the structural arrangement of chamber D. It will be observed that there are no piers or pillars projecting from the wall, as in chamber C, to facilitate roofing. In clearing out the chamber, however, four large upright pillars, each about 3 feet high, placed irregularly, and merely set in the sand, were found at a high level in the north-east are, and it is suggested that these may have been originally placed in the floor of the chamber and been extracted at a later date and set up to support some temporary shelter behind the wall of the ruined chamber.

As no headers of bronze were found, and no fragment of a crucible, it is very doubtful if the chamber in which the bronze casting was carried on has yet been discovered.

In clearing out the sand from the centre dwelling at a level from 18 inches to 2 feet above the floor there were found numerous flaked slates, hammer-stones, etc., suggesting that after the roofs had fallen in, and a certain amount of sand had accumulated over them, advantage had been taken of the shelter afforded by the surrounding walls to squat in the interior and work. This level is shown in the illustration of a section of ground before excavation by the irregular line of small flat stones (fig. 13).



Fig. 13. Section of unexcavated ground showing secondary level of occupation.

The back of the outer wall where it is exposed on the south-east, consists of a backing of heavy boulders laid directly against the sand, with a finished facing of smaller and flat-edged stones on the interior. On none of the stones is there evidence of shaping or dressing. At the base of the inner ends of the divisional walls separating the cells and chambers from one another, are set upright slabs, with horizontal building above, in the manner adopted in the construction of the buildings secondary to the adjacent broch. The quadrangular mass shown on the plan between the chambers A, D, and C is formed with upright stones set firmly on its periphery towards A and D as if to form a central pier. The walling on the south-west of the mass within C appears to be secondary, as the red clay floor, apparent over the rest of the chamber, extends beneath it.

In clearing away the fallen debris of flat stones, presumably from the roof, that overlay the floor of the main chamber (A on plan), a thin layer of blown sand was observed covering the actual floor and still free from the discoloration which affected all the sand taken from the interior above the fallen masonry. In this clean sand were many animal bones. The facts that there were not many bones trampled into the clay floors, that there was no definite black layer above the floor, and that the amount of abrasion on the hammer-stones was invariably slight, seem to suggest that the occupation of this dwelling had not been of long duration. But further light may be thrown on this point when the structure, with its entrance passage, has been fully explored.

Between the outer face of the wall of C and of the unexplored structure to the east of it, at a depth of 5 feet from the surface, there were found large stones laid horizontally, below one front of which several courses of building could be felt by thrusting down the hand, thus indicating the existence of an earlier structure beneath the excavated dwelling.

The fact that stone implements and moulds for casting bronze tools and weapons were found in the actual floor-level leaves no doubt as to the exact stage of culture of its inhabitants. They were living in the late Bronze Age, though, as would be expected, they had not entirely discarded the culture of the earlier epoch of Stone.

The plan which accompanies this Report has been kindly supplied by the Royal Commission on Ancient Monuments (Scotland), for whose use it was made.

Among various relics which obviously were not associated with the occupants of the dwelling, there was recovered at 2 feet below the surface a small oblong block of stone measuring $3\frac{1}{2}$ inches by $1\frac{1}{4}$ inch by $\frac{3}{4}$ inch, on the upper surface of which had been cut four figures resembling twig runes, with a shorter cut, as if to represent a stop, at the end (fig. 14). The figures, however, are not true runes, nor are they matrices of a pin mould, to which they bear some resemblance. It is probable, therefore, that the tablet has been inscribed with bogus runic characters for some talismanic purpose after the use of runes as literary symbols had fallen into abeyance. There was also found at a height of about 2 feet above the floor-level at the north-west end of chamber D, lying above a large stone slab, a double-toothed bone comb measuring $2\frac{1}{2}$ inches by $1\frac{1}{2}$ inch, formed out of one piece of bone, and of a type for which no particular antiquity can be claimed. This supplied further proof of some disturbance in this chamber. From nearly the same depth and lower came also fragments of a comb, but of a much

older type, in which the teeth in double row had been cut at the respective ends of several plates of bone, which had been held in position by transverse bands of the same material fastened together with bronze rivets.

This being an interim report, it is not intended to give a considered account of the relics found, as that can be done more appropriately when the dwelling has been completely excavated. Including those mentioned above, however, they comprise: 7 saws, or fragments thereof, of slate; 2 knives of slate; 9 scrapers, or parts thereof, of white quartz; 6 stone axes, or parts thereof; 12 hammer-stones or pounders, mostly found on level about 2 feet above the floor; a bone chisel and one-half of another; a bone piercer; 3 anvil stones, two broken and one complete; a knob of



Fig. 14. Stone Tablet inscribed with Rune-like figures.

bone measuring 1 inch by $\frac{3}{8}$ inch by $\frac{3}{4}$ inch, with a ferrule of bronze at base; some three dozen fragments of perforated heart-shaped slates and flat stones, and one complete specimen; a wedge-shaped piece of pumice, obviously used as a polisher; 2 portions of saddle querns; a shaped pebble, apparently a rubber for use on a quern; 2 objects that seem to have been handles of stone clubs; 2 scapulæ of sheep—one showing wear by use as a shovel, the other broken away at the distal end; a lumbar vertebra of a sheep perforated transversely; a flat object of cetacean bone, 4 inches long by $1\frac{1}{2}$ inch broad obtusely pointed to one end, smoothed on one surface, and with the edges rounded; part of a small whetstone of quartzite $2\frac{1}{8}$ inches long, and part of another of sandstone; an oval disc of slate, very regularly chipped out, $8\frac{1}{2}$ inches long by $4\frac{1}{2}$ inches broad; a four-sided vessel of fine-grained sandstone, measuring across the top $4\frac{1}{2}$ inches by 4 inches, with wall 2 inches high, the bottom of which has been worn away by rubbing; and a quadrangular block of sandstone perforated at one end as if for a rope.

Miss Platt of the Royal Scottish Museum has kindly undertaken a

Report on the animal remains, which will be held over till the excavation is completed. I am indebted to Professor Wright Smith for identification of the grain, to Mr Balsillie of the Royal Scottish Museum for information regarding minerals employed, and to Mr Arthur Edwards for the photographs of the illustrated finds. (*Note*.—As all these relics have not been brought to Edinburgh, a slight discrepancy is possible in some of the numbers of objects.)

Finally, I desire to acknowledge the excellent services of Mr Strachan, the Office of Works foreman, and of the team of local labourers, who by their intelligent and enthusiastic participation helped materially to the success of the undertaking.

III.

THE SITE OF ST BLANE'S CHAPEL IN RANNOCH.

By A. D. LACAILE, F.S.A.Scot.

Despite its associations, the site of St Blane's Chapel in Rannoch seems never to have been brought to the notice of a learned society, nor is the place even mentioned in the Statistical Accounts of the parish of Fortingall in which it is located. It does not appear on the inch to the mile Ordnance Survey map (Sheet 55), but it is figured on the 6-inch sheet about 20 yards south of the road from Kinloch Rannoch to Aberfeldy, just where the highway bends east of Lassentullich House at the base of the north-western slopes of Schiehallion, and about $2\frac{1}{2}$ miles east of Loch Rannoch. Here is to be seen the old stone-built burial enclosure of the Stewarts of Inverhadden standing on the crown of a steep and rocky bank surmounting the road. Tall trees, which surround the adjacent graveyard on a grassy platform between the mountain slope to the south and the bank above the road, make the site a most picturesque one.

The burial enclosure is an interesting structure possessing a number of archaic features reminiscent of an early phase of ecclesiastical architecture. Considering its situation and its sacred character, there can be no doubt that it occupies the site of the ancient chapel of St Blane, even if it does not actually embody parts of the old church walls. In plan the building is a plain rectangle, measuring internally at ground-level 25 feet 6 inches by 12 feet 4 inches. It is well built of rubble masonry embedded in mortar, but in places the walling, of the average thickness of 1 foot 10 inches and uniformly 5 feet 2 inches high, is ruinous, particularly so at the south-west corner. At this part the masonry

seems to differ from that of the rest of the building, for it is suggestive of the bonded drystone of the primitive churches of Ireland and of the Scottish western islands and counties. Here possibly is incorporated a portion of the original chapel. Ground irregularities to north, east, and west necessitated a greater drop on the outside of the walls; their north-east and north-west corners rise to no less than 8 feet above grass.

It appears remarkable that this building should have been erected on uneven ground, for the choice of such a site occasioned difficulties in construction involving great labour avoidable simply by building on the level only a few feet to the south. Besides, not only was more stone required to set up the structure where it stands, but the interior had to be made up to the level of the land to the south.¹ Probing tells that the rock is to be met with at considerable depth in what would be irregular outcrops before they were covered. Apparently, the true reason for the selection of the position of the burial enclosure is that it was built to stand on the ground hallowed by the occupation of the ancient chapel. A parallel to this Rannoch example is found at Suie, near Luib, Glendochart, the traditional site of one of the places of contemplation of St Fillan,² in the burial enclosure of the Macnabs of Inishewan, which occupies part of the site of a chapel, now obliterated save for vague outlines of foundations. Moreover, at Suie,³ other features indicate similar characteristics of ancient ecclesiastical sites and they can be paralleled at Lassentullich also.

The Lassentullich burial enclosure is more elaborate than most buildings of its class, for it is provided with three window-like openings, one being placed in each of the north, east, and west walls respectively. The aperture placed in the centre of the north wall and overlooking Strath Tummel, is round-headed. The narrow openings in the east and west ends, with the peculiar feature of an outward splay, afford an extensive view of the countryside in the directions faced. Although the building possesses nothing of a defensive character in itself, its commanding situation and the disposition of the lights make it an excellent point of vantage.

The entrance is situated in the middle of the south wall nearly opposite the large window. A single slab of schist serves for a lintel to the doorway whose jambs incline slightly toward each other from the base up.

¹ Advantage has been taken of this accumulation of soil for burials, some being as recent as the second half of last century.

² See my paper in *Proc. Soc. Ant. Scot.*, vol. lxiii, pp. 346-7.

³ At Auchlyne, 2 miles east of Suie, another chapel site, traditionally associated with St Fillan, is built upon by a family burial enclosure.

It will be observed that the narrow windows at the ends, the round-headed light in the north wall and the low doorway with its inclined jambs, all recall primitive Celtic church architecture. Evidently, those who built the stone enclosure had this early style in mind, and it may be that they sought to embody some features recalling the structure which erstwhile had stood here.

The outlines of the graveyard, of which the building just described forms the northern limit, suggest that they are very ancient, although the appearance and condition of the moss-covered drystone dykes enclosing the cemetery are not necessarily indications of age. But however deceptive these walls may be, and even if (as they appear to-day) they are not extremely old, it may yet be presumed that they rest on ancient foundations: therefore, in shape the sacred area cannot have changed materially. It may be useful to compare the irregular quadrilateral with certain graveyards known positively to be of great antiquity. As a close study of early church sites in the West of Scotland almost necessitates comparison with Irish ecclesiastical remains, it will not be out of place at this juncture to state that the old kirkyard at Lassentullich closely resembles the enclosure within which is situated the "Priest's House," or Mortuary Chapel, at Glendalough, Co. Wicklow.¹

Of the antiquity of the site, then, there can be no doubt, but as there are no traces of a cashel or domestic buildings, nothing exists now to show that it can be assigned to a very remote period. That the site itself, as a Christian station, is ancient, however, is proved by the presence of a schistose slab with two faces set nearly east and west respectively. The monolith stands in the churchyard at a distance of 50 feet to the south-west of the ruin and 10 feet north by west of the gate leading into the cemetery. The stone is 6 inches thick and is higher on one side, the greater height (to the north) being 4 feet 6½ inches; on the other it measures 4 inches less. Carved in relief upon the west face is an exceptionally fine and well-preserved example of cross, with long shaft and round hollows at the intersection with the short arms.

The shaft is 3 feet 7 inches long and 6 inches wide. Across the arms, which taper very slightly at their ends and extend over the greatest width of the monument, the measurement is 1 foot 6 inches. The cross may be included in the category typified under the number 101 A in *The Early Christian Monuments of Scotland*, part i. p. 51.

An interesting feature occurs on the reverse or east face. This takes the form of three circular hollows near the middle of the slab. The

¹ *Historical and Descriptive Notes, etc. of the Ecclesiastical Remains at Glendalough* (Extract from the Eightieth Annual Report of the Commissioners of Public Works in Ireland, 1911-12, Revised 1925), pp. 13-14, and Drawing 17a, p. 13.

symmetrical disposition of the cavities shows that an attempt was made to produce a cross on this face, similar to the symbol on the other. No doubt, the schist so scaled that the sculptor had to abandon his purpose, but the depressions remain to indicate what was intended (fig. 1).

Search was made for other early Christian monuments or mediæval stones bearing carvings, but none was discovered. On one slab only was there detected a small Latin cross of common type comprising

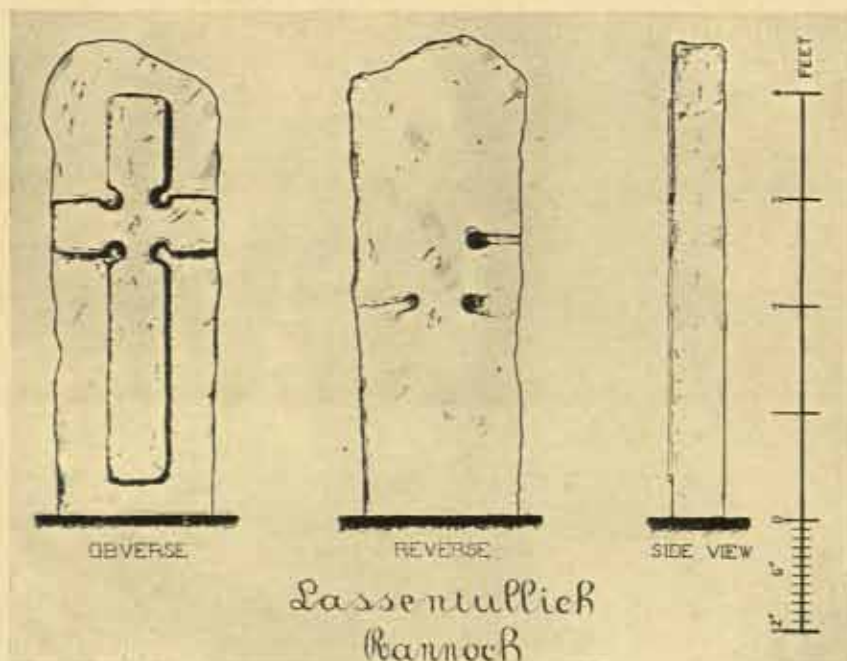


Fig. 1. Cross-slab at Lassentullich, Perthshire.

narrow lines deeply incised. The symbol does not seem to differ in respect of age from the eighteenth-century lettering which is also cut on the sepulchral stone.

One more relic connected with the place has to be recorded. Eight feet south of the north-east corner of the graveyard is a small recess (18 inches by 14 inches by 12 inches) open to the west and situated low in the wall. Until recently this space housed a well-preserved but extremely crude holy-water stoup made from a rough block of schist, 14 inches long, 9 inches wide, and 8 inches high, with a cavity 8 inches by 6 inches, tapering toward the bottom to a depth of 4 inches (fig. 2).

Not many mediæval holy-water stoups have been recorded as such in Scotland, but from time to time basined stones, recognised as having

served for church uses, have been noted. Frequently these have been referred to as fonts, apparently without proper study of the subject. Examination might show that some of them, dismissed under this indiscriminate designation, are stoups and not baptismal basins. It will suffice to say here that Scotland furnishes innumerable examples of stones with artificial cavities. Various suggestions concerning the purpose of these vessels can be adduced. Some may be domestic as querns or mortars, commercial or utilitarian as grain-measures, and others ecclesiastical as fonts, stoups, or piscinæ. But the truth is that in the last class few have survived.



Fig. 2. Holy-water Stoup from St Blane's, Rannoch.

Use of holy-water in places of Christian worship goes back to the early centuries of this era, and is a survival of practices of classical antiquity. But the small fixed vessels to contain the liquid in churches do not seem to have been general even in continental countries until the eleventh or the twelfth century. For long after this stoups usually took the form of a capital with a small trough in the top surface.¹ Ultimately they assumed a variety of forms as regards external outlines and shape of basin. Sometimes stoups are found elaborately ornamented according to the style and taste of the period to which they belong; generally, however, they are comparatively plain. Fixed holy-water stoups probably did not appear in Scotland until a fairly late date.² Consequently, rude as is the small stoup at St Blane's, it

¹ Abbé Paul Bayart in *Liturgia*, p. 246.

² The term "fixed holy-water stoup" is used to distinguish it from the movable or portable receptacles, which were placed on a column or in a recess near church doors, after the disappearance of the *atrium* in larger basilicas provided with basins containing water for cleansing the hands before entering the church. The portable holy-water carrier came to be used, as now, solely for certain ceremonies.

must not be assumed that it is of great antiquity, as, say, the cross-slab in the kirkyard, although both are of the same kind of stone (fig. 2).

This stoup, possessed of a rectangular cavity and compared with other mediæval specimens and modern examples, is not of uncommon type. It is likely that the old stone vessel occupied a position not far removed from where it had stood for centuries; its immunity was doubtless due to the isolation of the site. That it was deemed worthy of local regard is proved by the presence of the recess which held it. Though its present situation and fate are unknown, it is fortunate that the holy-water stoup can be placed on record in the Society's *Proceedings*.

Cognate to these notes, a typical example of a well-executed mediæval



Fig. 3. Holy-water Stoup from Fail, Tarbolton, Ayrshire.

holy-water stoup came to my notice in 1927. It may be usefully compared with the crude piece from Lassentullich, for both are very similar despite disparity of craftsmanship.

While driving near the scanty remains of the monastery of the Red Friars at Fail, near Tarbolton, Ayrshire, Mr James Shaw, County Clerk, Ayr, noticed in a farmyard what he recognised to be a church relic being used as a drinking-trough for poultry. Securing it, he took it to his home, where it is now carefully preserved. Knowing my interest in these matters, Mr Shaw kindly drew my attention to the stoup, and through his courtesy I am able to show an illustration (fig. 3).

The stoup from Fail is of grey sandstone and rectangular. It stands 6½ inches high and is 11 inches long and 9 inches wide. A groove ½ inch deep runs round the stone vessel 1 inch below the top. Flat-based and with rounded edges and corners, it bears a semicircular compartment ¼ inch deep, 7 inches long, and 2 inches high on each side, the sunken area being furnished with a round moulding along the upper and

straight outline. The ends are similarly treated, but the hollows are deeper although not outlined at their bases. One measures $6\frac{1}{2}$ inches across and 4 inches in height, and the other, more weathered than its fellow, is $6\frac{1}{2}$ inches by 4 inches. Each arc is ornamented with round-edged dentels, the curved surface below being made up of a continuation of the same pattern, consisting of twenty-three teeth. A rectangular cavity, flat-bottomed and with straight sides, 2 inches deep, is cut out of the stone, providing a receptacle for water, $7\frac{1}{2}$ inches long and $5\frac{1}{2}$ inches wide. Vandal initials, "J. S.," have been deeply scratched on the surface of one compartment.

These holy-water stoups may be compared with two examples which approach them closely in similarity. One, the carved stone vessel from Dunottar Castle, was exhibited to the Society on 13th February 1911 by the Rev. D. G. Barron.¹ The other, an even closer parallel, is the small, plain stoup still in its niche near the door of the parish church of Pylle, Somerset.²

In common with other ancient church sites, St Blane's Chapel, Lassentullich, was situated near a spring of water. West of the building on the rocky promontory, at a distance of 100 yards, on the south side of the road, is a horse-trough deriving its constant and copious water supply from a well within the curtilage of Lassentullich House. Inquiries were made in the locality with the view of obtaining some folklore connected with the spring, but nothing was gleaned from conversation. Indeed, none of those whom I interrogated was even aware of the presence of any well in the neighbourhood, and this despite the fact that the spring in the grounds of Lassentullich figures as St Peter's Well on the 6-inch Ordnance Survey map (Perthshire, Sheet 37, N.E.).³

The relation between Blane and Peter is obscure, as the name of the Apostle connected with a site in so remote a Highland district is unexpected. Theories could be advanced to reconcile the two saints' names, but such theories, necessarily bringing in their train much controversial matter, do not come within the scope of this paper. Sufficient is it to mention that the cult of St Peter was not established in Scotland before the first quarter of the eighth century.⁴ Not many

¹ *Proc. Soc. Ant. Scot.*, vol. xlv. pp. 223-4.

² John Henry Parker, *A Concise Glossary of Architecture*, pp. 270-1.

³ Doubt arises in regard to the source of water at the site, as 100 yards south of the graveyard there is a low escarpment of rock with trees overhanging a spot constantly wet and marshy. Mr Thomas M'Laren tells me that the dripping-place under the trees was pointed out to him as being St Peter's Well. This information, contradicting the revised large-scale survey of 1900, appears, nevertheless, to stand on reasonable ground, for many reputedly sacred springs are associated with rocks and trees, especially the latter.

⁴ Jas. M. Mackinlay, *Ancient Church Dedications in Scotland (Scriptural Dedications)*, pp. 218-9.

Scottish ecclesiastical foundations bear the name of Peter, but wells called after him are fairly numerous, while not a few place-names show that his cult enjoyed a measure of popularity. St Blane, who died in A.D. 590, is enshrined in a number of place-names. Previous to the reading of this notice, two Perthshire foundations have been recorded as being connected with St Blane. These are respectively at Dunblane, and in the scanty ruins of a chapel bearing his name on the southern shore of Loch Earn in the parish of Balquhiddel.¹ Analogous instances occur of the linking of Blane with another saint, as, for example, in Dunblane Cathedral, where he is coupled with Lawrence the Deacon; Blane, in his early years, is associated with his foster-father and tutor, St Chattan.² Professor W. J. Watson, to whom I am once more indebted for advice, tells me that none of the local Gaelic place-names embodies either of the saints connected with the Lassentullich site.

My warm thanks are due to Mr Thomas M'Laren, F.S.A.Scot., Burgh Surveyor, Perth, for most kindly placing at my disposal, not only draft plans and notes, but his knowledge of the site and region. His assistance so freely given has been of the utmost service to me.

¹ *Proc. Soc. Ant. Scot.*, vol. lxi, pp. 132-7.

² Jas. M. Mackinlay, *Ancient Church Dedications in Scotland (Non-scriptural Dedications)*, p. 111. According to a Bute legend Blane was mysteriously begotten of a water-sprite (*ibid.*, p. 111).

IV.

CORN BYKES OF CAITHNESS. BY MRS L. DUFF DUNBAR
OF ACKERGILL, F.S.A. SCOT.

In 1774 Thomas Pennant wrote in his tour through Caithness: "Here are neither barns nor granaries; the corn is thrashed out and preserved in the chaff in *bykes*, which are stacks in shape of beehives thatched quite round, where it will keep good for two years."¹



Fig. 1. Corn Byke at Mirelandhorn, Caithness, in 1905.

This method of storing grain, though now apparently obsolete, was in use up to twenty years ago at any rate. The last I saw was in 1910. The accompanying photograph, taken in July 1905, shows a byke at Mirelandhorn in the parish of Wick.²

The manner of construction was as follows: A site was chosen on a spot of bare ground in a dry situation, and a ring, "a perfect round circle," is made of common spars or "stabs" driven into the earth, close together barrelwise, with a "mell" (hammer).

Chaff or "shillings" (husks of oats) to the depth of about a foot are then put in to cover the beaten earth, and above these a little straw, and then old bags. That

completes the flooring of the byke.

Next straw from sheaves threshed with the flail, termed "gloy," is put round the outside up and down or round the structure.

The byke is then filled with corn. When the grain is nearly up to the top of the stakes, "simmons" (straw ropes) are wound round and round outside, and the whole is thatched over with a very deep thatch, and made firm with more simmons bound crosswise. This ingenious and simple granary keeps corn in an excellent condition, and it is said to have the merit of being rat-proof.

A byke that I measured in 1910 was 16 feet 2 inches round at the

¹ *Tour*, 1774, vol. i. p. 182.

² In fig. 1, beyond the corn byke, are to be seen two examples of the Old Red Sandstone slab fences so often met with in Caithness.

base and 19 feet at the eaves. The height to the eaves was 6 feet. It held about ten quarters of corn. It was made by an expert, Mr Alexander Doull, Mirelandhorn.

Such bykes were sometimes used as cornbins in a barn—of course much modified in construction and without wooden spars.

MONDAY, 8th February 1932.

CHARLES E. WHITELOW, Vice-President,
in the Chair.

A Ballot having been taken, the following were elected Fellows:—

ERIC BIRLEY, M.A., F.S.A., Chesterholm, Bardon Mill, Northumberland.

DAVID ANGUS BROWNLEE, Brownlee Cottage, Colston, Bishopbriggs.

Mrs PENELOPE HOTCHKIS, Mid-Dykebar, Paisley.

ROBERT GELLATLY MACLEAN, F.A.I.(Lond.), 296 Ferry Road, Dundee.

The following Donations to the Museum were intimated and thanks voted to the Donors:—

(1) By Sir ALISTER P. GORDON CUMMING, Bart., of Altyre.

Rim and wall fragments of a Food-vessel, the wall ornamented by transverse rows of vertical impressions of an instrument pressed at a very oblique angle. It has measured $4\frac{1}{2}$ inches in external diameter at the mouth. Found with fragments of incinerated human bones and some pebbles covered with a limy incrustation in parts, in a short cist near Loch of Blairs, Altyre, Morayshire. (See subsequent communication by J. Graham Callander, F.S.A.Scot.)

(2) By JAMES S. RICHARDSON, F.S.A.Scot.

Scraper of black Flint, measuring $1\frac{1}{4}$ inch by $1\frac{1}{8}$ inch, found about 50 yards south-west of the cairn on Whitekirk Hill, East Lothian.

Scraper of highly patinated grey Flint, measuring $1\frac{1}{4}$ inch in length, and three worked Flakes of grey Flint, found by the donor on the sands at Gullane, East Lothian.

(3) By A. D. LACAILLE, F.S.A.Scot.

Small Acheulean Hand-axe (*coup-de-poing*) of Flint, measuring $2\frac{1}{2}$ inches in length, found by the donor at Swanscombe, Kent.

(4) By C. DALE, St Alban, Braid Road, Edinburgh.

Four barbed and stemmed Arrow-heads and two of triangular form, of grey and black Stone, found on an estancia lying between the eastern entrance to the Straits of Magellan and Cabo Penas, Tierra del Fuego, South America.

(5) By Lieut.-Commander G. E. P. How, F.S.A.Scot.

Silver Straining Spoon, with a perforated bowl and pointed stem, bearing the maker's mark MK, for Colin Mackenzie, Edinburgh, date c. 1700.

(6) By Mrs M'CONACHIE, The Manse, Lauder.

Two barbed and stemmed Arrow-heads of grey Flint, measuring $\frac{1\frac{3}{8}}$ inch by $\frac{1\frac{1}{8}}$ inch and $\frac{1\frac{5}{8}}$ inch by $\frac{9}{16}$ inch; four Scrapers of grey Flint, measuring $1\frac{1}{2}$ inch by $1\frac{3}{8}$ inch, $1\frac{7}{8}$ inch by $1\frac{1}{2}$ inch, $1\frac{1}{4}$ inch by $\frac{1\frac{3}{4}}{2}$ inch, and $1\frac{1}{2}$ inch by $\frac{7}{8}$ inch; a Saw of brownish Flint, measuring $2\frac{3}{8}$ inches in length; a worked Flake of grey Flint, measuring $1\frac{1}{2}$ inch in length; five sub-triangular Implements of grey and brown Flint, measuring $1\frac{1}{2}$ inch by $1\frac{3}{4}$ inch, $1\frac{3}{8}$ inch by $1\frac{9}{16}$ inch, 1 inch by $1\frac{1}{2}$ inch, $\frac{1\frac{5}{8}}{2}$ inch by $1\frac{3}{8}$ inch, and $\frac{1\frac{5}{8}}{2}$ inch by $1\frac{1}{8}$ inch; Whetstone with an oblique perforation at one end, measuring $6\frac{3}{8}$ inches by 2 inches by $\frac{7}{8}$ inch; perforated Disc of Shale, measuring $1\frac{1}{2}$ inch by $1\frac{1}{4}$ inch in cross diameters, and a stone Whorl of domical shape, measuring $1\frac{7}{8}$ inch in diameter—from Lauderdale, Berwickshire.

(7) By CHARLES E. WHITELOW, F.S.A.Scot., Vice-President.

Two Earthenware Pitchers, one with a yellowish brown glaze, measuring $13\frac{1}{4}$ inches in height and $10\frac{1}{2}$ inches in widest diameter, the other with a fine bright green glaze, and the neck encircled by a number of raised mouldings, measuring $12\frac{1}{4}$ inches in height and $9\frac{1}{2}$ inches in greatest diameter, dredged up from the Forth, near Gargunnoch, Stirlingshire.

(8) By the Misses Ross, 14 Saxe-Coburg Place, Edinburgh.

Cast of Royal Arms of Scotland carved in stone at Jedburgh Abbey, early fifteenth century.

There were acquired through the King's and Lord Treasurer's Remembrancer:—

One Groat of David II. and two Groats of Robert II., found at St Ninian's Chapel, Drumnadrochit, Inverness-shire.

The following Donations to the Library were intimated and thanks voted to the Donors:—

(1) By HIS MAJESTY'S GOVERNMENT.

Journal of the Commissioners for Trade and Plantations, from January 1741-1742 to December 1749. London, 1931.

Royal Commission on National Museums and Galleries. Interim Report, dated 1st September 1928. Final Report, part i., dated 1st January 1930, Final Report, part ii., dated 20th September 1931; and Oral Evidence, Memoranda, and Appendices to the Final Report, dated London, 1929.

(2) By JAMES K. STEWART, C.B.E., Inchmahome, Longniddry.

The Stewarts: a Historical and General Magazine for the Stewart Society. Vol. vi., Nos. 1 and 2.

(3) By RICHARD QUICK, F.S.A.Scot.

Bulletin of the Russell-Cotes Art Gallery and Museum, vol. x., No. 4, December 1931.

(4) By THE HARVARD UNIVERSITY PRESS.

Allan Ramsay: a study of his Life and Works. By Burns Martin, Ph.D., King's College, Halifax. Cambridge, 1931.

(5) By A. D. LACAILLE, F.S.A.Scot., the Author.

The Bull in Scottish Folklore, Place-names and Archæology. Reprint from *Transactions of the Folk-lore Society*, vol. xli., No. 3, 30th September 1930.

(6) By Dr R. PARIBENI, Hon. F.S.A.Scot., the Author.

La Famiglia Romana. Rome, 1929.

(7) By JOHN D. COMRIE, M.A., B.Sc., M.D., F.R.C.P., F.S.A.Scot., the Author.

History of Scottish Medicine. Vols. i. and ii. Second Edition, London, 1932. Published for the Wellcome Historical Medical Museum.

(8) By J. D. HUTCHISON, B.Sc., Egerton, Ashton Road, Luton, Beds, the Author.

The Church of St Bride, Douglas. London, 1932.

The following Communications were read:—

I.

AN INTERPRETATION OF A DRAWING ENTITLED "OUR LADY KIRK OF FIELD, EDINBURGH," IN H.M. STATE PAPER OFFICE.
By HENRY F. KERR, A.R.I.B.A., F.S.A.Scot.

It may appear strange that a drawing generally supposed to have been prepared to make plain an historical scene should require interpretation; nevertheless the drawing as it stands, without manuscript or letterpress, is not readily understandable.

A facsimile of it is to be found in one of the scrap-books of Sir Daniel Wilson entitled *Memorials of Auld Reekie* in our Library. It is in colour, but the colouring, although suggesting what are walls, what are trees, and so forth, is of secondary importance, and a line tracing of it is all that is necessary to base an argument upon for an interpretation (Pl. I.).

The drawing was probably meant to illustrate the scene of Lord Darnley's murder on 9th February 1567. In the centre is a space where roof trusses and other building materials are lying about, indicating the ruins of the Prebendaries' Lodging, which was blown up. Some interested spectators are looking on. This space is called "Ye place of ye murther."

On the adjoining wall is the Postern door mentioned in the story of the crime. It led into "Ye Thieves Raw," and just opposite, on the south side of the road, is the doorway to the enclosure in which the bodies of Darnley and his servant were found. Lying near the bodies are sundry articles of clothing, a chair, and a dagger.

To complete the representation of the locality we see below the scene of the explosion the Provost's House, and the carrying of Darnley's body through "Ye Kirk of Field Back yard" into the house where it is noted "Ye king was keipit after his murther." Spectators and guards are to be seen looking on.

Behind the Provost's House is a quadrangle with a well in the centre, and "Ye priests Chambers" beyond. Farther east behind the Priests' Chambers is the garden in which Queen Mary was said to enjoy the sunshine on her visits to her consort. Adjoining this was the property of the Blackfriars.

On the left hand is "Ye mylk Raw," leading from Blackfriars Wynd and the Cowgate, to "Our Lady's Stepis," and thence into the yard of Kirk of Field.

On the lower part of the drawing is the church, in the graveyard of which is seen "Ye burying of body of Ye king's servant."

The Flodden Wall at the back of the kirkyard shows the entrance gateway to the Kirk of Field precincts, with a coat-of-arms over. The Flodden Wall goes westwards until it joins the Potter Row. There it turns north, and a few yards on again turns westwards at the Kirk of Field Port, and thence onwards to Greyfriars Port.

One point of interest is the position of four horsemen. They appear to be near the Potter Row on this drawing; but was this so? We shall see later.

The drawing as it stands does not represent the locality, hence its obscurity. If we examine a plan of this portion of the city we can see all the details in their proper proportion and position (Pl. II.)—the Provost's House, the Priests' Chambers, the Prebendaries' Lodging, the Postern, and the large enclosure in which the bodies were found, on the opposite side of the road.

General Mahon, in his interesting book *The Tragedy of Kirk of Field*, contributes some ideas, that the Prebendaries' Lodging was originally the Provost's House, and that to the west of it was built a Salle, or Reception Gallery; when the later Provost's House was built to the west, the Salle could be used in connection with either. Further, to buttress his argument he thinks that the gunpowder was secreted under the floor of the Salle, and not in the basement of the Prebendaries' Lodging. In support of that he points out that the east wall or gable of the Prebendaries' Lodging was not cast down by the explosion, although all trace of the Salle is gone. I am inclined to accept these details; but they in no way affect the interpretation of the drawing.

The keynote to the whole solution is the fact, shown on the plan, that the Flodden Wall proceeds along the Kirk of Field property from west to east practically in a straight line, later to slightly incline northwards. Also that at no part was there a right-angled turn on this wall to the southwards.

Another link in the process is that the Provost's House is not in line with the Flodden Wall, but at right angles to it, and is connected with the Flodden Wall by an unembattled wall dividing the property there.

If we turn again to the original drawing we note an embattled wall from the Kirk of Field Port, along the Thieves' Row, enclosing the college property. Embattling indicates defence, and thus we may safely assume it to be the Flodden Wall, the defensive wall of the city.

When we follow this wall to "Ye Provost's Place," we observe the large entrance gateway, with embattlements over it—evidently to show

that it was an opening in the Flodden Wall. But at this place the embattled wall fades out. Just here is seen another embattled wall at right angles to this part of the Flodden Wall. We know from the plan of the locality that there was no such return of the Flodden Wall. And, moreover, we see that these embattled walls do not join, they simply fade out at about this place. Beyond the tree, where the first part of the Flodden Wall fades out, we note a plain wall which evidently is the division wall already noted which separates two parts of the property. This wall we know ran from the Flodden Wall at right angles to it northwards, and united with the Provost's House.

Now it is plain that what is shown on one sheet is really two drawings. The draughtsman was not able to show the locality in perspective, so he took this crude method of representing the scene.

On the margin of the drawing I show north points. If these are considered they will solve the problem. The two drawings are: From A to B is the base of one drawing, showing the Kirk and servant's grave. This drawing extends upwards to D, and includes the smaller enclosures to the south of the Thieves' Row, until the two cottages are reached. The second drawing, an L-shaped one, must be turned round until the line of the Flodden Wall in both drawings is continuous, and the north points coincide with the first drawing.

To unite these two drawings as suggested makes a rather ridiculous diagram, with some buildings standing on their ends. Yet it is undoubtedly a true conception of what the unknown artist meant to convey (Pl. III.).

In order to lessen confusion only the important details are shown. In this is portrayed the Provost's House, the scene of the murder, and the large-scale field where the body of Darnley lay.

There is probably one point cleared up, viz., the position of the four horsemen. We see that by this drawing the horsemen may be near the Potter Row, or otherwise may be to the south of the field where the bodies were. Two of the horsemen are looking in one direction, and the others in a different direction. May this not be that these were employed to watch, two at the Potter Row, and two to the south of the field, where the bodies were found?

It was in 1924 that I first seriously took up this investigation. In the summer of that year Professor Karl Pearson of London wrote to me asking if I could explain his difficulty in reconciling this strange drawing with my "Plan of Edinburgh in Mid-Eighteenth Century." In reply I sent him an explanation founded on the actual plan of the locality, and I enclosed rough drawings showing my solution of the difficulty. The drawings which I now show are merely revisions, and in some cases

enlargements, of what I sent him. Professor Pearson accepted the interpretation with two reservations: one was that he did not understand the position of the four horsemen, and the other was that he did not believe that the large gateway into the Kirk of Field opened from the Thieves' Row, because it did not appear on any plan or print, nor on Gordon of Rothimay's "view." He asked for my historical evidence. My reply was that there was no plan or print that showed the Flodden Wall at this part previous to the removal of the Kirk of Field buildings; Gordon's, the earliest, was in 1647, nearly a century later, when the university buildings occupied the site of the Kirk of Field. The only drawing, and the only evidence forthcoming, was this strange drawing of 1567 in H.M. State Paper Office, and this drawing shows the gateway under an embattled wall, presumably the Flodden Wall.

Four years later Professor Karl Pearson published in *Biometrika*, Vol. 20 B, a drawing by himself, or to his order, of the solution I gave him, and which is shown here.

I sent him also a small preliminary sketch in bird's-eye form showing the solution in a modern manner. The sketch I now show is a fresh drawing of the same to a larger scale, and including some of General Mahon's details (Pl. IV.). This drawing in perspective represents the scene and actions which the sixteenth-century artist desired to convey. All his details are there:

The Ruins—the place of the explosion.

The Postern, and the field where the bodies were found.

The Quadrangle with its central well.

The Provost's House, and the bearing in of the King's body.

The Church, and the burying of the King's servant.

Together with other incidental matters, such as the Milk Row, Our Lady's Steps, and other less important details.

The key to the solution is, of course, the position on plan of the Flodden Wall. This wall is to be seen at the south of the church and Provost's House, and the site where the Prebendaries' Lodging was blown up. In this sketch the details shown in the State Paper Office drawing all fall into their proper positions. The pious Invocation of the Child may add interest, although not any accuracy to the representation.

The question as to the position of the four horsemen is further elucidated in this sketch. The probability that two of them were watching at the Potter Row, and the other two at the back of the orchard where the bodies were found is, perhaps, more suggestive than even in the plan.

In connection with the interpretation of this drawing I do not seek

any particular credit, as it seems to me that anyone who had the local knowledge, and carefully studied the drawing, must surely see the only possible solution is that of two drawings on one sheet, one of them at right angles to the other. But, so far as I am aware, this is the first time that the solution has been put on black and white, and all doubt of its interpretation removed.

I would like to take this opportunity of saying a few words on the architectural history of the Church of St Mary in the Fields.

This church, ordinarily called the Kirk o' Field, has not to-day one stone standing on another. Its stones were evidently removed when "Oor Toon's College" was established on the site late in the sixteenth century. Some of its buildings were used as college premises.

Very little is known of its history, or of its appearance. In the map or view of 1544, it is a large cross church with a central tower. In the view of 1567 before us, it seems to be more like a church of nave and transepts of one date, and the addition of a larger choir at a later time. These two are the only drawings seemingly extant.

At a subsequent time James Skene of Rubislaw made a sketch of the church. This must have been about 1800 at the earliest, and as the church was removed some two hundred years before that time, his drawing must have been founded on some earlier drawings, or be more or less imaginative.

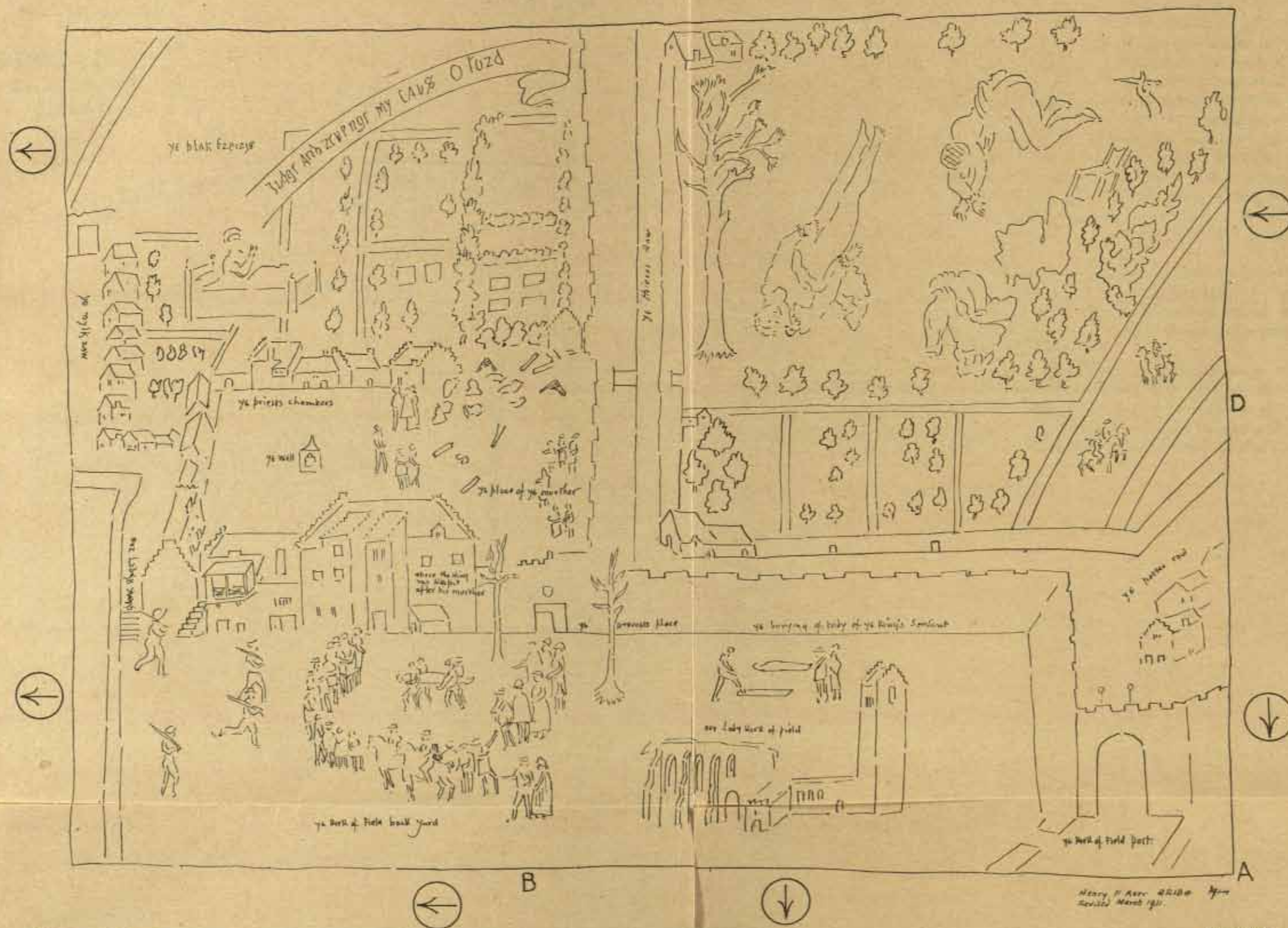
As to its history, Sir Daniel Wilson in *Memorials of Edinburgh* (vol. ii. p. 177) writes: "Its age and founder are alike unknown . . . it is probable that its foundation dated no earlier than the fifteenth century, as all the augmentations of it . . . belong to the sixteenth century." But in James Grant's *Old and New Edinburgh* (vol. iii. p. 1), he says: "In the taxation of the ecclesiastical benefices in the archdeaconry of Lothian, found in the treasury of Durham, and written in the time of Edward I. of England, there appears among the churches belonging to the abbey of Holyrood, *Ecclesia Sanctae Mariae in Campis*." This record brings us back to the thirteenth century. Judging from the drawings before us it seems not only possible, but very probable, notwithstanding Sir Daniel Wilson's negative view, that Grant's date is the correct one. Wilson tells us that as a collegiate foundation it was governed by a provost, and housed eight prebendaries, two choristers, with a hospital for bedesmen. This was in the fifteenth century.

The hospital was, Wilson informs us, destroyed in the Hertford raid of 1544, and the church was taken down when the early Town's College was founded in 1582 or thereby.

In endeavouring to fix the date of the buildings from the drawings

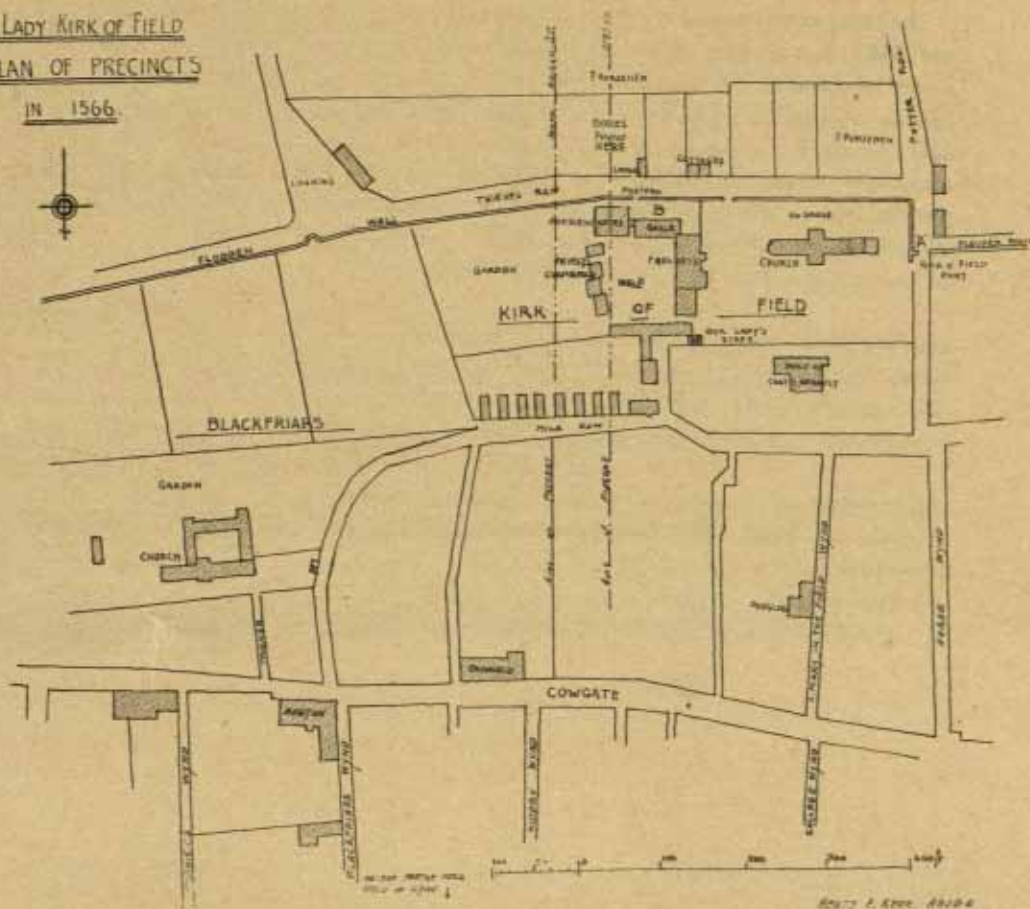
OUR LADY KIRK OF FIELD FROM H.M. STATE PAPER OFFICE

ROUGH UNCOLOURED TRACING FROM SCOT. SOC. ANTIQ. LIBRARY. NORTH POINTS ADDED.



OUR LADY KIRK OF FIELD
PLAN OF PRECINCTS

IN 1566

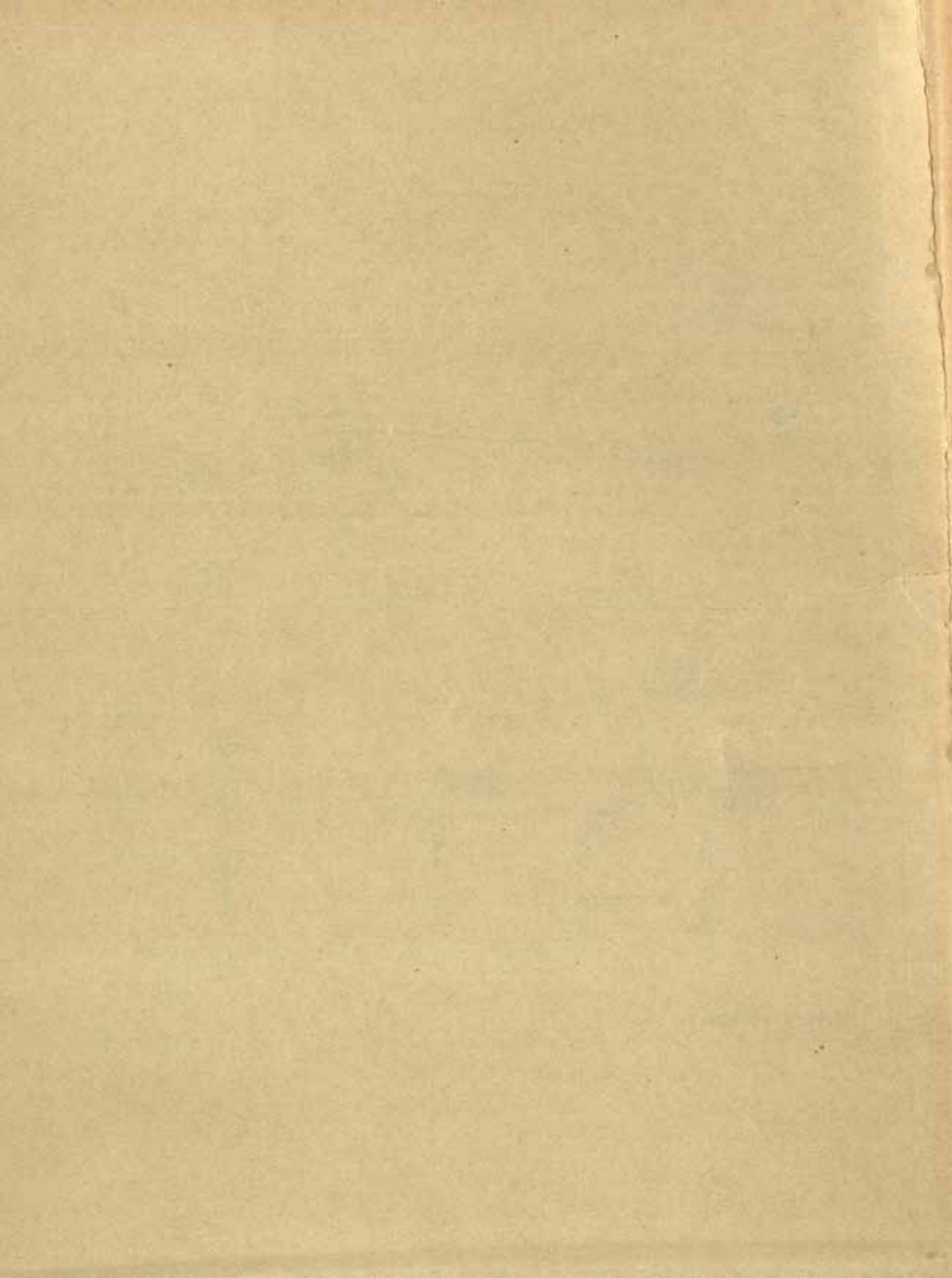


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HENRY F. KERR.

PLATE II.

[To face page 144.



at our disposal there is some difficulty, as in important points they do not agree. The 1544 sketch shows a central tower; the 1567 drawing shows a western tower. If the position of the tower is correct in the later drawing, then there would not be room for a nave to the west of it. The only value of Skene's sketch is that the western tower is repeated.

If we had no other drawing than the small-scale sketch of 1544 we would be grateful for it, but too much faith must not be placed in such general views, and so the later and larger view of the unknown artist of the Darnley drawing seems to be much more reliable. Indeed, the 1544 map may merely suggest the existence of a church there, whereas the 1567 sketch shows the appearance of the church, just as the other buildings in the precincts of Kirk of Field which are found to be fairly accurate, and it is certainly more dependable for detail than the general sketch of 1544.

Both, however, agree as to a saddleback to the tower, and with gables to the east and west. This is the usual orientation in Scotland of these features, and it is remarkable that Skene in his drawing shows the gables to the north and south, contrary to general usage. As Skene never saw the church we need not trouble more.

When we proceed to balance the probabilities we may assume with some confidence that the church was built about 1230, and as shown in the 1567 drawing, had nave and transepts of that date, and a western tower with later crowsteps; and that, when the church was raised to collegiate status, a large new choir was added in the fifteenth century.

II.

STANDING STONES AND OTHER ANTIQUITIES IN JURA. BY
ERIC HARDWICKE RIDEOUT, M.A., B.Sc., F.S.A.Scot.

The main object of these notes is to provide a record of the present condition of the principal antiquities of the island.

All the sites marked on the one-inch to one-mile Ordnance Survey Maps of Jura, in Gothic letters as of antiquarian interest, have been roughly surveyed and photographed in the years 1930 and 1931. They may be classified as follows:—

Standing Stones: (a) Tarbert; (b) Corran House; (c) Sannaig; (d) Strone; (e) South of Cnoc Reamhor; (f) Carragh à Ghlinne.

Sites of Chapels: (g) Tarbert; (h) Cill Earnadill.

Sites of Forts or Settlements: (k) An Àros; (l) Dunàn; (m) Crannog near Craighouse.

Unfortunately the Ordnance Survey name books, so useful a source of information in England, have not proved helpful, as I am informed by the Director-General that the "name books concerned have been examined, but do not contain any information of a nature likely to be useful to an archæologist." In the following notes the account of each site is preceded, in italics, by the description applied on the Ordnance Survey Maps.

(a) *Standing Stones*.—Near Tarbert, on the seaward side of the road from Lagg to Ardlussa, are marked both *Standing Stones* and *Chapel*. The most impressive of these stones stands in a clump of bracken on the roadside. It is firmly bedded in the soil on a slight eminence, with a group of smaller stones around the base. Its dimensions are, height 8 feet, width 2 feet tapering to 1 foot 9 inches, thickness 9 inches. It is roughly rectangular, shaped at the apex to a sharp peak. Apparently this is the stone mentioned by Martin, who says "Within a mile of the Tarbat there is a Stone erected about eight Foot heigh."¹

Another stone stands in the graveyard at Tarbert, to the east of the former, near the western boundary wall (fig. 1). The surface of the ground here is very rough, due to numerous excavations for graves and to thick matted tussocks of grass. Whether the stone does duty as a headstone is uncertain by reason of the crowded state of the graveyard. It appears to be about 7 feet high above the ground level, is about 2 feet wide, irregular in shape, and averages about 1 foot 6 inches thick. It is the only monolith on the island which is wider at the

¹ Martin, *Description of the Western Islands of Scotland*, 2nd ed., 1716, p. 231.

summit than at the base. In front of it, undoubtedly acting as a headstone, is a smaller pointed stone, projecting about 1 foot 6 inches above the turf. The larger stone bears on its eastern face an incised cross, discernible in the photograph. The incision is so weathered and lichen-encrusted that its dimensions cannot be determined with accuracy. (Photographed September 1930.)

(b) *Standing Stones*.—These are situated at the north end of Small Isles bay, and between Corran House and Knockrome. There are two, both comparatively small. The larger measures, above ground, height 5 feet 2 inches, width at base 3 feet 9 inches tapering gradually to 2 feet, whence it is bluntly pointed, and about 10 inches thick.

The smaller stone about 200 feet to the east measures 4 feet 5 inches in height, width 1 foot 2 inches, with a rounded top, and is about 9 inches thick. A well-marked vein of brighter quartzite runs from top to bottom of the main face of the stone.

Both stones are situated in a somewhat boggy area used at one time as a turbary. Owing to their small size I had at first some little difficulty in locating them, and in seeking information from Mr and Mrs Darragh of Corran House, was informed that a lady who had visited the island some years before (between 1922 and 1928) had told them that the stones gave their name to the island, one being called "Ju" and the other "Ra." Which was which I could not find out. Now Martin states that

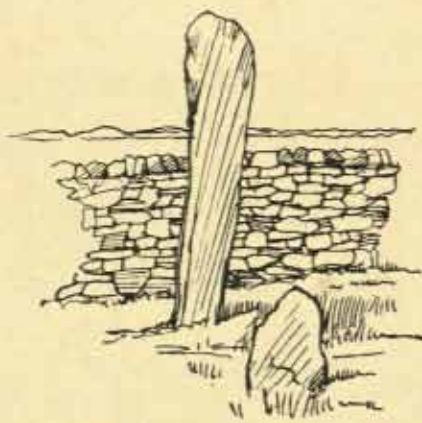


Fig. 1. Standing Stone in the Church-yard at Tarbert, Jura.

"The Natives say that *Jura* is so call'd from *Dih* and *Rah*, two Brethren, who are believ'd to have been *Danes*; the Names *Dih* and *Rah* signifying as much as without Grace or Prosperity. Tradition says, that these two Brethren fought and kill'd one another in the village *Knock-Cronm*, where there are two Stones erected of 7 Foot high each, and under them they say, there are Urns with the Ashes of the two Brothers: the Distance between them is about sixty yards."¹

Undoubtedly we are dealing with the same story, but it is truly an illuminating illustration of the pitfalls of folk-tales as a guide to local history, when a legend first ascribed to the "Natives" is forgotten by them and returns, somewhat garbled, from the mouth of a visitor. The stones appear to have lost some height, if Martin's account is accurate, as it is at Tarbert, but some of the discrepancy may be due

¹ Martin, *op. cit.*, p. 231.

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The main object of these notes is to provide a record of the present condition of the principal antiquities of the island.

All the sites marked on the one-inch to one-mile Ordnance Survey Maps of Jura, in Gothic letters as of antiquarian interest, have been roughly surveyed and photographed in the years 1930 and 1931. They may be classified as follows:—

Standing Stones: (a) Tarbert; (b) Corran House; (c) Sannaig; (d) Strone; (e) South of Cnoc Reamhor; (f) Carragh à Ghlinne.

Sites of Chapels: (g) Tarbert; (h) Cill Earnadill.

Sites of Forts or Settlements: (k) An Àros; (l) Dunàn; (m) Crannog near Craighouse.

Unfortunately the Ordnance Survey name books, so useful a source of information in England, have not proved helpful, as I am informed by the Director-General that the "name books concerned have been examined, but do not contain any information of a nature likely to be useful to an archæologist." In the following notes the account of each site is preceded, in italics, by the description applied on the Ordnance Survey Maps.

(a) *Standing Stones*.—Near Tarbert, on the seaward side of the road from Lagg to Ardlussa, are marked both *Standing Stones* and *Chapel*. The most impressive of these stones stands in a clump of bracken on the roadside. It is firmly bedded in the soil on a slight eminence, with a group of smaller stones around the base. Its dimensions are, height 8 feet, width 2 feet tapering to 1 foot 9 inches, thickness 9 inches. It is roughly rectangular, shaped at the apex to a sharp peak. Apparently this is the stone mentioned by Martin, who says "Within a mile of the Tarbat there is a Stone erected about eight Foot heigh."¹

Another stone stands in the graveyard at Tarbert, to the east of the former, near the western boundary wall (fig. 1). The surface of the ground here is very rough, due to numerous excavations for graves and to thick matted tussocks of grass. Whether the stone does duty as a headstone is uncertain by reason of the crowded state of the graveyard. It appears to be about 7 feet high above the ground level, is about 2 feet wide, irregular in shape, and averages about 1 foot 6 inches thick. It is the only monolith on the island which is wider at the

¹ Martin, *Description of the Western Islands of Scotland*, 2nd ed., 1716, p. 231.

summit than at the base. In front of it, undoubtedly acting as a headstone, is a smaller pointed stone, projecting about 1 foot 6 inches above the turf. The larger stone bears on its eastern face an incised cross, discernible in the photograph. The incision is so weathered and lichen-encrusted that its dimensions cannot be determined with accuracy. (Photographed September 1930.)

(b) *Standing Stones*.—These are situated at the north end of Small Isles bay, and between Corran House and Knockrome. There are two, both comparatively small. The larger measures, above ground, height 5 feet 2 inches, width at base 3 feet 9 inches tapering gradually to 2 feet, whence it is bluntly pointed, and about 10 inches thick.

The smaller stone about 200 feet to the east measures 4 feet 5 inches in height, width 1 foot 2 inches, with a rounded top, and is about 9 inches thick. A well-marked vein of brighter quartzite runs from top to bottom of the main face of the stone.

Both stones are situated in a somewhat boggy area used at one time as a turbary. Owing to their small size I had at first some little difficulty in locating them, and in seeking information from Mr and Mrs Darragh of Corran House, was informed that a lady who had visited the island some years before (between 1922 and 1928) had told them that the stones gave their name to the island, one being called "Ju" and the other "Ra." Which was which I could not find out. Now Martin states that

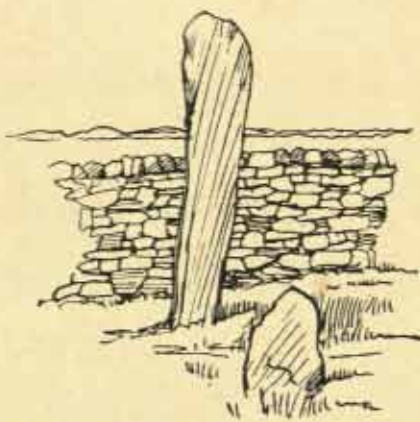


Fig. 1. Standing Stone in the Churchyard at Tarbert, Jura.

"The Natives say that *Jura* is so call'd from *Dih* and *Rah*, two Brethren, who are believ'd to have been *Danes*; the Names *Dih* and *Rah* signifying as much as without Grace or Prosperity. Tradition says, that these two Brethren fought and kill'd one another in the village *Knock-Cronm*, where there are two Stones erected of 7 Foot high each, and under them they say, there are Urns with the Ashes of the two Brothers: the Distance between them is about sixty yards."¹

Undoubtedly we are dealing with the same story, but it is truly an illuminating illustration of the pitfalls of folk-tales as a guide to local history, when a legend first ascribed to the "Natives" is forgotten by them and returns, somewhat garbled, from the mouth of a visitor. The stones appear to have lost some height, if Martin's account is accurate, as it is at Tarbert, but some of the discrepancy may be due

¹ Martin, *op. cit.*, p. 231.

either to a sinking of the stones in the bog, or to the growth of the peat since 1716, or to both. (Visited September 1930.)

(c) *Standing Stones*.—To the north-east of the abandoned farmhouse of Sannaig, and in a semi-cultivated enclosure, lies an interesting collection of stones. The monolith here is 7 feet 4 inches high, 1 foot 8 inches to 1 foot 6 inches wide, and of a thickness of 10 inches (fig. 2). Ten feet due south of the base of this stone is a collection of stones, suggesting very strongly the relics of a cist. Among a number of smaller stones

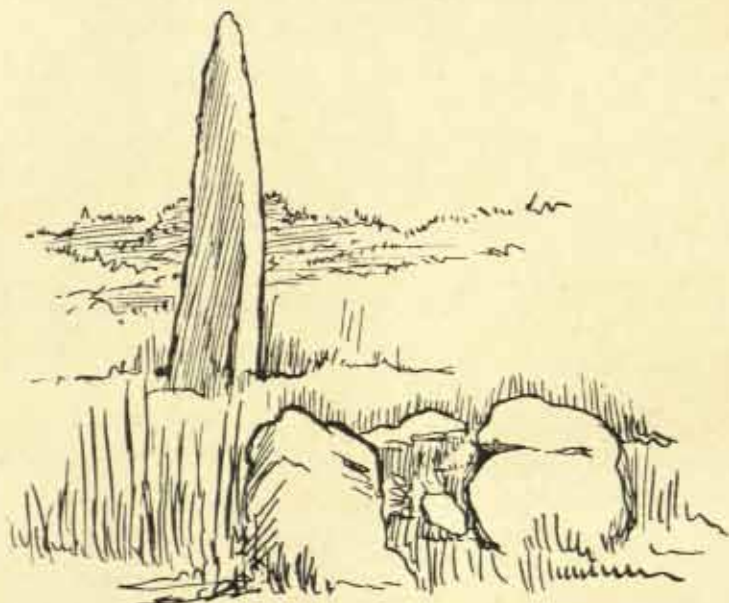


Fig. 2. Standing Stone at Sannaig, Jura, from south.

two are conspicuous, one 3 feet 10 inches long by 2 feet wide, and the other, which may either have been another monolith or part of the cist, measures 6 feet 4 inches long by 1 foot 3 inches wide. There are, however, many loose stones hereabouts, which may have been collected from the fields for dyke building, or may represent the residue from a cist. (Photographed August 1931.)

(d) *Standing Stone*.—At a distance of about one-third of a mile south of Strone farmhouse, and on the opposite side of the burn, is an isolated stone (fig. 3). It measures 9 feet 6 inches in height, 1 foot 10 inches to 1 foot 3 inches in width, tapering to a point above, and 9 inches to 10 inches in thickness. Six feet eight inches west-south-west of the base lies a flat stone embedded in the ground about 9 feet long and 2 feet wide. Whether this forms part of a cist or is a fallen monolith is uncertain.

There appears to be a slight depression in the soil along one side of its length, but this may be due to normal erosion. Probing failed to discover the existence of any stone-faced cavity. (Photographed September 1931.)

(e) A *Standing Stone* is marked in the wood running from the Craighouse-Feolin Ferry road, south of *Cnoc Reamhor*. A preliminary search in 1930 failed to discover it, and no opportunity for a further visit has been available.

(f) *Carragh à Ghlinne* (? The Stone of the Glen).—This, one of the most impressive of the standing stones of Jura, is situated in a narrow little valley which carries a stream from the eastern face of *Brat Bheinn* to the dam above the old distillery at Craighouse (fig. 4). Its measurements are, above ground, height, 7 feet 10 inches; width, 1 foot 10 inches to 2 feet, irregular; thickness, 1 foot. The lower part of the stone has been rubbed remarkably smooth, perhaps by cattle. Aligned with it on the opposite bank of the burn is a smaller shaped stone, 2 feet 8 inches high and 2 feet wide at base. The large monolith stands surrounded by



Fig. 3. Standing Stone at Strone, Jura, from west.

bracken, on the flood plain, near the stream, and is conspicuous for some distance up or down the valley. To the north of this little flood plain, the ground slopes somewhat sharply to about 400 feet, above which lies hidden in the hills *Loch a Bhaile Mhargaidh*. On the south is a heather-clad ridge about 70 feet above the plain. Looking south-west over this small stone to the monolith, a small stone on the ridge beyond is strikingly obvious, but whether or not this alignment is accidental or intentional it is difficult to determine. Continuing in the same direction is the cairn on Crackaig Hill. (Photographed September 1930. Revisited September 1931.)

(g) *Chapel* (near Tarbert).—All that can be seen is a rectangular excavation in the turf of the graveyard lying approximately east and west, about 12 yards long by 6 yards wide, with indications of a doorway some 3 yards from the west end on the southern side. The boundaries

of the hollow are, however, so irregular, in common with the rest of the graveyard, that these dimensions are to be regarded as approximate only. No trace of stone work can be seen. Excavation might reveal the foundations. (Photographed September 1930.)

(h) *Cill Earnadill—Site of Chapel.*—Both these names occur a short distance north of Keills, a few hundred yards west along the burn from the Manse. Here is a remarkable site, a small flood plain at the bottom of a deep valley, with steep sides of glacial drift, now occupied by the graveyard for the southern portion of the parish. Presumably here



Fig. 4. Standing Stone, "Carragh à Ghlinne," Jura, from south-west.

stood the church called *Killearn* of Martin;¹ perhaps even the village he mentions of the same name,² though it seems more probable that Keills occupies the site of the settlement of *Kilharnadull*, 1564,³ or *Killarnadill*, 1630.⁴ The site has been obviously so altered in recent times that documentary evidence would be required to establish anything with certainty.

Sites of Settlements, etc.—(k) It is recorded that—

"Several barrows and duns are to be found on the hills: and near Small Isles Harbour there are the remains of an ancient camp, with a triple line of defence."⁵

Unfortunately, of these "several" I have only located two so far, though it is quite reasonable to suppose that others exist unmarked. The latter part of the above quotation I presume is derived from Anderson's account, later paraphrased as—

"the remains of an encampment, consisting of three oval embanked hollows, defended on one side by deep ditches, and on the other by regular bastions."⁶

The only site I can see which may possibly have filled this description is the crest of the hill to the seaward of Ardfernal, though so irregular is the surface I am unable to corroborate the details given.

More noteworthy, though again so seriously mutilated, presumably by the removal of stones to build the crofts below, is the site marked

¹ Martin, *op. cit.*, p. 239. ² *Ibid.*, p. 237.

³ *Origines Parochiales Scotiae*, II. p. 279 (Bannatyne Club, 1854).

⁴ *Ibid.*, p. 276.

⁵ *Ordnance Gazetteer Scotland*, art. Jura.

⁶ *Origines Parochiales Scotiae*, p. 279.

An Àros, in Glengarrisdale, North Jura. Topographically the situation is excellent, a hillock, precipitous on the west, north, and east, commanding the landing-place and the approach along the glen from the east. Examination of the surface gives faint indications of two small enclosures of irregular shape perhaps about 30 feet across, but no details could be picked out with certainty in September 1931.¹

(l) Topographically one could hardly escape the situation of the hillock above *Dunan*, even were the name to suggest nothing. A settlement existed here, below the hill, until a few years ago, and it is reasonable to suppose that the undoubted earthworks on the hill above represent a defensive settlement. Only excavation can solve such problems. However, it is perhaps pertinent to draw attention to the site, commanding as it does a well-marked and presumably ancient drift way, which appears to have led from Craighouse to the seaward of Crackaig Hill, past Sannaig (Crakage and Sannok in 1545²), below *Dunan*, and so past Strone (Strowne in 1545³) towards Brosdale: the present Feolin-Craighouse road appearing to my eyes at least as of very modern construction.

(m) Finally, a last supposition, the "Crannog" may be entirely accidental or a natural phenomenon. It is so strikingly like a crannog, however, that if subsequent information should prove it to be of natural origin, its illustration may at least serve as a warning to future enthusiasts. It is situated near the southern edge of a small loch marked on the one-inch Ordnance Map, but there nameless, above the distillery at Craighouse. When inspected in August 1931, the level of the water in the loch, which when the distillery was in use might be controlled, was exceedingly low owing to the dry weather. Rarely, I understand, has the island been so dry. The structure is roughly oval in shape, measuring 27 feet along a north-south diameter, and 20 feet from east to west. Its base, then visible, consisted of a depth of 3 feet of peaty material, surmounted by a layer of vegetation and fresh peat about 1 foot thick. Eighteen inches from the base the ends of small tree trunks lying approximately horizontally were projecting slightly. Excavation of course is required to establish the authenticity of the structure.

¹ Under a stone near by is "preserved" a human skull and sundry bones, reputed to be those of raiders from Colonsay. A report on these relics has been made, so I was informed, but where published I cannot trace. If they are of any value a safer resting-place might be found for them, though they are as well treated, as the conditions permit, by Mr McKechnie who lives at Glengarrisdale.

² *Origines Parochiales Scotiae*, p. 279. ³ *Ibid.*

III.

EXCAVATIONS IN TWO IRON AGE FORTS AT EARN'S HEUGH, NEAR
COLDINGHAM. BY PROFESSOR V. GORDON CHILDE, F.S.A.Scot.,
and PROFESSOR C. DARYLL FORDE.

The twin summits of Tun Law, one of the loftiest cliffs on the Berwickshire coast just west of St Abb's Head, are occupied by prehistoric forts which have been described by Craw,¹ Christison,² and the Royal Commission on Ancient and Historical Monuments.³ The two peaks are at present defended on the seaward side by the precipitous cliff, known as Earn's Heugh, that falls away sheer to the sea; their gentler slopes landwards are guarded by triple ramparts. As the cliff is being rapidly eroded, it is quite possible that these ramparts, now stopping short at its brink, once extended round the respective forts on the seaward side too. Such an extension of the inner bank of East Fort along the present cliff edge is in fact still traceable for some distance. A narrow depression, apparently natural, that separates the two peaks, also forms a line of demarcation between the two forts, but the middle rampart of East Fort joins on to the outer rampart of West Fort on the western side of this depression. The relatively flat summit of the western peak seems well adapted for habitation, and 10 hut-circles are clearly visible upon it. The inner rampart runs round the edge of this level space. The eastern peak, though higher, is not so conveniently defensible. It slopes away quite steeply from the cliff edge, leaving little space for buildings. Perhaps for this reason the ramparts have been placed relatively low down where the ground begins to become more level (Pl. I).

Differences in construction between the two forts in respect of the relative positions of the ditches, and of the arrangement of the gates, have already been noted in the field surveys cited above. They suggest a difference in age. The hope of determining the relative dates of two types of fortification, the presence of exposed building noted by Craw, and the promising appearance of the hut-circles, prompted the Edinburgh League of Prehistorians, acting on a hint from Mr A. O. Curle, to undertake an examination of the site. Permission to excavate was courteously granted by Mr Burn Murdoch of Westloch House, with the kind concurrence of Mr Bell, tenant of Northfield Farm. Work was accordingly started on July 13, with Mr P. Laing as foreman, assisted

¹ *Ber. Nat. Club*, 1894-5, p. 176.² *Ancient Fortifications*, p. 129.³ *Berwick*, p. 46.

by Messrs Baird, Gibson, and Scott, to whose enthusiastic co-operation the success of our short campaign was largely due. The League was represented by M. Arbuckle, I. Henderson, P. Kennedy, M. E. Crichton Mitchell, and V. G. Childe, while Professor and Mrs Forde of Aberystwyth and C. Fairhurst of Glasgow yielded welcome help. Professor Forde took charge of work on the interior of West Fort, while Professor Childe supervised the trenches across the ramparts.

THE DEFENCES OF WEST FORT.

The brim and slopes of the lower or western crest are defended on the landward side by three banks. The Outer and Middle Banks are separated by an obvious ditch, while a level space intervenes between

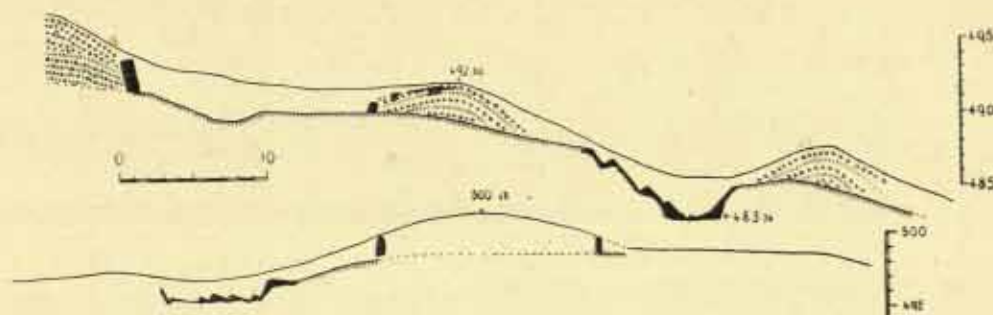


Fig. 1. Sections I and III. (Scale in feet; uppermost line denotes turf surface.)

Middle and Inner Banks. On the east, where the peak is overlooked by the higher eastern crest, a fourth rampart, Middle Bank 2, is interpolated between the ditch and the regular continuation of Middle Bank. But this supplementary defence only extends for a distance of 90 feet inwards from the cliff.

The nature of these defences was tested by three sections: No. I, south-west through the fifth hut-circle from the entrance (fig. 1, top); No. II, due west along the middle of the entrance; and No. IV (fig. 10), over the eastern defences along a line 33° south of east from a point 36 feet inwards from the eastern postern. All three sections gave concordant results as to the nature of Inner and Outer Banks and the ditch. The character of Middle Bank on the south-east differs, owing partly to its duplication from that disclosed in sections I and II. Its peculiarities were further studied in section III (fig. 1, bottom).

Inner Bank is composed of rubble mixed with earth over a core of clay and rubble. It still rises from $4\frac{1}{2}$ to $5\frac{1}{2}$ feet above the till which everywhere forms the sub-soil. In cross-sections (Nos. I and II only)

no structure was detected in the rubble body of the bank, but in all three sections, and at a point east of section I (as also near the eastern postern), a built outer face was exposed (fig. 2) at its base. This consisted of a course of massive, roughly squared blocks, attaining a length of 3 feet 3 inches, a height of 1 foot 6 inches, and a thickness of 1 foot set edgewise in the original ground surface, though seldom actually bedded in the underlying till. In places (*e.g.* in section IV) these blocks supported a course of smaller slabs, raising the total height of the wall



Fig. 2. West Fort: Revetment of Inner Bank in Section I.

to 2 or 2½ feet. The wall formed a revetment supporting the clay core of the bank. There was no corresponding revetment on the inner side of the bank (at least in sections I and II, where alone it was sought).

Middle Bank has to-day in many parts a scarcely perceptible elevation above the level of the turf inside it, and seems superficially less stony than Inner Bank. It proved in fact to rise only 2½ to 4 feet above the underlying till and to be composed of a much larger percentage of clay than Inner Bank. Stony and earthy layers alternate, a coating of rubble coming on the outside. In sections I, IIIa, and IV a line of blocks, 10 inches to 12 inches high, like a kerb, served to support the core of the rampart on the inside (fig. 3). No corresponding outer revetment was disclosed by sections I, II, or III, but such was exposed in the south-eastern segment as described below.

Outer Bank seems to be composed mainly of earth with an admixture and facing of rubble. It nowhere rises more than 3 feet above the underlying till. No structure was detected in sections I or II, but in section IV large slabs came to light at the base of the bank on both sides. From their position these may well have belonged to retaining walls that had slipped downwards towards the ditches inside and outside the bank.

Between Inner and Outer Banks comes a comparatively level space,



Fig. 3. West Fort: Kerb at base of Middle Bank in Section I.

16 to 18 feet broad on the west and south-west, but widening to 36 feet on the east. In sections I and II the till was found to be sloping gently down across this area, whereas in section IV the slope was interrupted by a ridge of rock upon which Middle Bank I rests, but here the whole space between the ramparts was not excavated. In section I a shallow excavation in the till was observed, beginning about 1 foot from the revetment of Inner Bank and extending for a distance of 7 feet. It reached a maximum depth of just over 1 foot below the point the natural surface of the till would have occupied had its slope been continuous across the space in question (fig. 1, top left). The excavation must have served rather to provide material for Inner Bank than as a defence.

The ditch was well defined between Middle and Outer Banks in sections I, II, IIIB, and IV. In section I (and probably also in IIIB) the

fosse had been cut in living rock to a depth of 3 to $4\frac{1}{2}$ feet below the assumed original surface of the sub-soil, the excavation having a width of $9\frac{1}{2}$ feet. The bottom of the ditch was very irregular, the rock standing up in jagged ridges with pockets between, in which water collected. In section IV (as also in II) the fosse had been dug through the till to a depth of not more than $2\frac{1}{2}$ feet. It was V-shaped and $6\frac{1}{2}$ feet wide. The ditch was everywhere filled with earth and rubble that had slipped in from the adjacent ramparts, but yielded no relics nor even animal bones.

WEST FORT: ENTRANCES. THE MAIN GATE.

The only conspicuous gap in Inner Bank lies on the west. To it correspond gaps in Middle and Outer Banks and an interruption in the

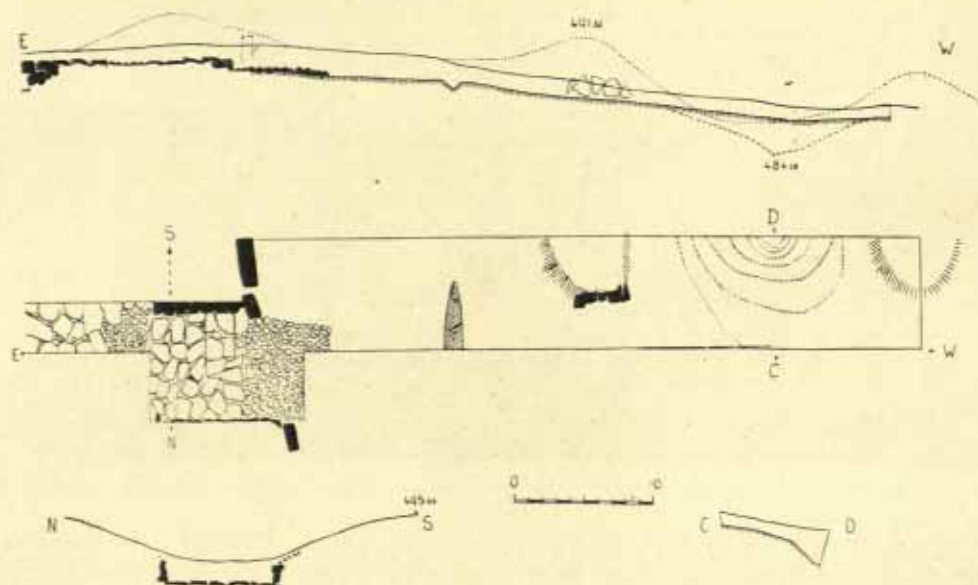


Fig. 4. Plan and Sections of Main Gate, West Fort. (Scale in feet; uppermost line denotes turf surface.)

ditch. It evidently denotes the principal gate with its axis running east and west. Unfortunately, the banks and causeway were here overgrown with stout whin-bushes, especially on the north. Nevertheless a trench, 8 feet wide, was dug westward from the centre of the gap in Inner Bank along the line of the causeway so as to expose the southern half of the entrance. Between the segments of Inner Bank the trench was widened northwards by 5 feet (fig. 4).

The blocks forming the outer revetment of Inner Bank having thus

been exposed on either side of the line of section, a gap, 7 feet wide, was discovered between them representing the actual width of the entry. On the south of the section the revetment terminated in an approximately square block, presumably constituting a jamb (visible in front of staff in fig. 5). The space between the ends of the revetment, save for a small gap immediately in front of the "jamb," was cobbled with small stones tightly packed in the till. The same cobbling extended westward along the line of section for 5 feet beyond the gap in the



Fig. 5. West Fort: Main Gate through Inner Bank.

revetment, but did not exist in front of the latter. Inside the line of the revetment the cobbling gave place to a pavement of large flat slabs (fig. 5, centre, fig. 6, in background). This pavement was only 7 feet wide, and was taken to denote the width of the gate through Inner Bank. But no really built face marked the ends of the latter on either side. The whole of the depression between the northern and southern segments of the bank that had superficially marked the entrance was found, on removing the turf, to be cumbered to a depth of nearly 18 inches with stones and earth that had presumably slid in from the ends of the bank. The only indication of the actual limits of this was an earth-fast stone projecting edgewise on the southern side of the excavation. The pavement seemed, however, to extend

inwards towards the interior of the fort, perhaps as a street. A sounding made at the eastern end of our section disclosed several layers of stout paving-slabs above the original till.

As remarked already, a cobbled pavement extended for 5 feet west of the line of the revetment of Inner Bank. Thereafter the naked till continued to slope gently downwards till after 8 feet it was interrupted by a V-shaped trench, 9 inches deep and some 18 inches wide (marked by staff in fig. 6) which extended for 5 feet south of the line of section,



Fig. 6. West Fort: Main Gate through Middle Bank.

and for an unknown distance north thereof, where no excavation was made. It may have been designed to take some movable obstacle.

No pavement was found between the segments of Middle Bank, nor was the usual line of kerbstones noted on its inner side. On the other hand, a regular line of five stones on end, 12 inches to 15 inches high, marked the line of the gate through Middle Bank on the south (fig. 6).

The causeway across outer ditch was clearly revealed. On the line of section the gentle slope of the till continued without interruption, but farther south the boulder-clay had been dug away so that 7 feet 6 inches south of the base-line its surface lay 2 feet 6 inches lower than on the crown of the causeway.

The gap in Outer Bank was entirely overgrown by a tangle of stout

whins. A section through the bank disclosed no facing to its end or other structure, and owing to the disturbance of the soil the excavation was arrested at this point.

WEST FORT: EASTERN POSTERN.

Craw's plan (Pl. V.) shows a small gap in the eastern segment of Inner Bank near the cliff edge. Excavation here disclosed a break in the revetment wall, about 2 feet 9 inches wide, that presumably denoted a postern gate. At its south corner is a large slab lying prostrate, perhaps a facing stone fallen from the revetment. Behind this, at right angles to the revetment, a rough face extending for 3 feet 3 inches, though only built three courses high and not rising more than 1 foot above the till, marks the edge of the postern thoroughfare. The north-eastern outer jamb of the gate was a large block, 1 foot 10½ inches by 10 inches by 12 inches, lying parallel to the face just described. Behind its inner extremity no built face could be detected, but 3 feet behind the inner corner stands a large block on end, 9 inches by 10 inches and rising 2 feet 3 inches above the soil. This stone might mark an inner jamb (fig. 7). The postern thus defined was not paved in any way, its floor being merely the natural till, stripped of old humus.

The postern through Inner Bank opens on to a level space 42 feet wide. There may have been an exit through Middle Bank opposite it, for that bank does not appear to-day to run right up to the cliff edge. This may, however, be merely an incident of erosion. It seems more likely that the true exit lay on the south.

Middle Bank runs continuously at a distance of from 25 to 30 feet from the crest of Inner Bank south and east of the west gate till it appears to end in a little hump of rock opposite the south-east corner of Inner Bank. To reach this hump Middle Bank has to curve north-east in sympathy with the curvature of Inner Bank. A new segment begins on the old line south of the rock hump and itself curves round parallel to Inner Bank, but now ten feet farther away therefrom and standing on a platform of bed-rock. A trench, section III (fig. 7), was dug along a line 33° south of west to determine whether the two segments of Middle Bank were connected. No sort of bank joining the two was, however, revealed. Where the connecting wall should have run, there was indeed a natural ledge of rock, but without any superstructure. The recurving end of the western segment is, on the other hand, a genuine bank, and the rock-outcrop on which it terminates may very likely have been cut away to simplify access to the enclosed area. South-east of the outcrop, as section IIIA shows, the rock-surface rose from 494·96 feet above O.D.

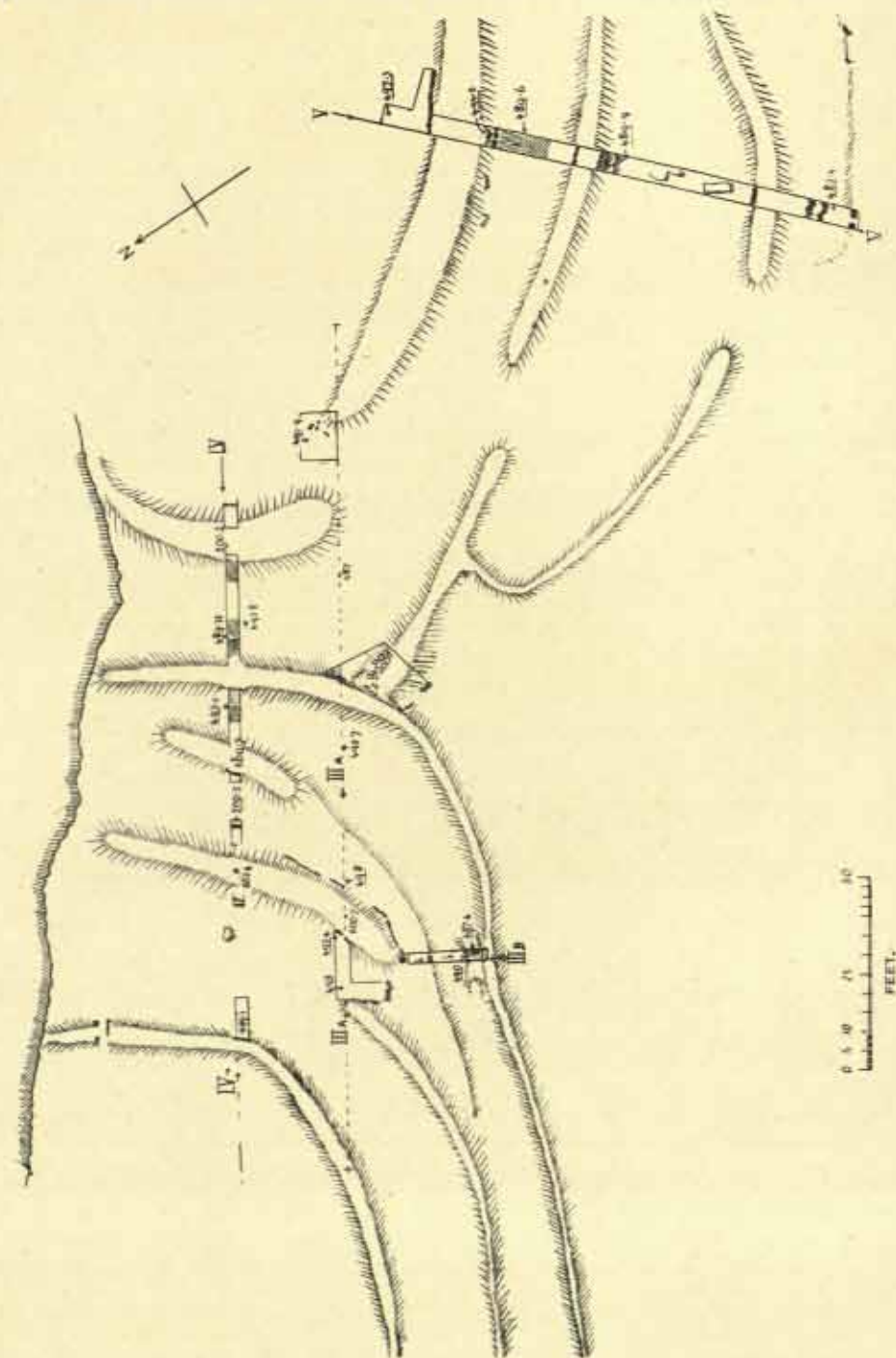


Fig. 7. Area of Sections III-V. Resurveyed by the Excavators.

at the foot of the outcrop to 497.40 feet at the crest of the ridge on which the eastern segment of Middle Bank stands (fig. 1, bottom).

Both in section IIIA and in section IV a low kerb was exposed on the concave inner side of the latter bank. Externally, Middle Bank is supported here by a well-defined revetment of large slabs on edge (the largest is 2 feet 3 inches high and 2 feet long) like the outer face of Inner Bank. This revetment, already noted by Craw, was traced on both sides of section IIIA for a distance of about 40 feet, save for two



Fig. 8. West Fort: Revetment of Middle Bank in Section IIIA.

gaps respectively 3 feet 9 inches and 7 feet 8 inches wide (fig. 8). It terminates on the south in a massive square block which seems to mark also the end of the eastern segment of Middle Bank.

South-west of this point Craw's plan shows an interruption in the ditch which would denote an entrance causeway if the gap in Middle Bank just described be regarded as a postern. The area in question was overgrown with whins and bracken. These were removed and section IIIB was dug along the crest of the supposed causeway. It was found that the rock-surface, covered in patches by thin layers of till, descended in ledges from 494.32 feet above O.D. at the base of terminal stone in east segment of Middle Bank to 489.14 feet on the neck of the causeway, 19 feet away. The causeway was a spur of the rock left intact across the line of inner ditch and there covered with a thin layer of undisturbed

till. Beyond the neck the rock itself rose again and the turf on the crest of Outer Bank stood 490.36 feet above O.D., so that the bank clearly ran across the end of the causeway. On the other hand, undisturbed till was found on the surface of the causeway; 2 feet east of its neck the layer of till is missing and the solid rock has been cut through to a depth of $1\frac{1}{2}$ foot or more to form the ditch. We must then admit that there was originally a spur of living rock projecting from the hill at this point, but that this spur was deliberately left intact and utilised as a causeway across the ditch to correspond to the gap in Middle Bank, interpreted as a postern. It will be noticed from fig. 7 that Outer Bank curves in slightly on either side to the head of the causeway although no gap in the bank is visible.

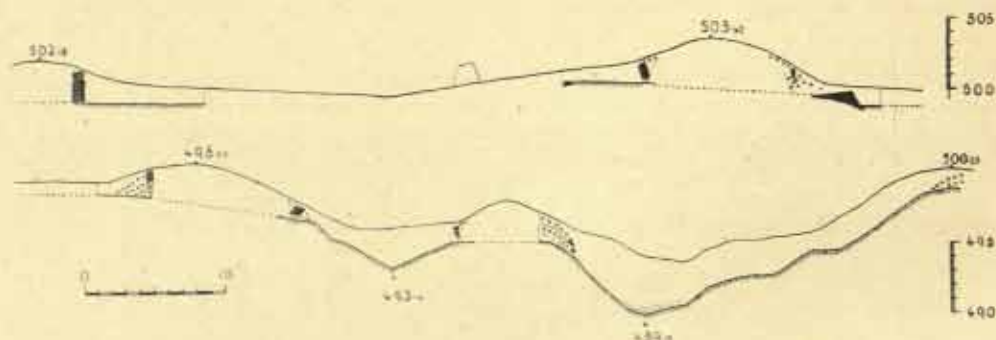


Fig. 9. Section IV. (Scale in feet; uppermost line denotes turf surface.)

Even west of the causeway the ditch had been continuing in an easterly direction when the western segment of Middle Bank had already turned to the north-east, as remarked on p. 159. The resumed eastern segment of the same bank stands even at its western end 5 or 6 feet back from the brink of the ditch, and this distance is soon increased to 15 feet by the rapid north-easterly trend of Middle Bank I. Sections III and IIIB had demonstrated that only a rocky ledge but no second bank bordered the ditch on its inner side. Even on the line of section IIIB no real bank is observable on the inner margin of the ditch, the turf sloping continuously down from the base of the revetment of Middle Bank I. So far, therefore, there was merely a platform between the bank and the ditch. North-east of section IIIA, however, the inner brim of the ditch is crowned by the quite formidable work known as Middle Bank II. This seems to have been east up to protect the fort on the east, where the natural slope of the ground had been reduced preparatory to the reascent to the eastern peak of Tun Law. Middle Bank II stands upon a ridge of rock

and is composed largely of rather small size rubble, like a scree. In section IV a sort of inner breastwork of stones, each about 8 inches high, was exposed above over 1 foot of such rubble some 3 feet inside the apparent crest of the rampart (fig. 9). Externally there were traces of a retaining wall supporting the rubble on the edge of the ditch.

N.B.—The section in fig. 9 has been divided for convenience in reproduction, though it represents a single continuous line.

HUT-CIRCLES IN WEST FORT.

Ten hut-circles are observable within the ramparts of West Fort, none were found in East Fort, where the dimples near the cliff edge on the north-west were later proved to conceal only apparently natural irregularities in the bed-rock.

The circles lie for the most part close under the Inner Bank, the most sheltered position in the fort. Of these, seven lay east of the western entrance and have been numbered in order from the entrance (see fig. 1).

The following objects were found in this fort:—

No.	Object.	Place of Finding.
1	Sherds	Cell off Hut 5.
3	Round stone	" " " "
4	Bit of bronze wire	Hut 5, floor. "
5	Pottery goblet	" "
8	Stone bowl or socket	" "
9	Miniature goblet	" "
11	Fragment of rotary quern	" "
6	Enamelled bronze brooch	" "
13	Sherds	" "
15	" (black)	" "
16	" (rim)	" "
17	Stone whorl	" "
38	Hone	" "
20	Sherds	" under pavement
23	"	" behind cell.
19	"	Outside door of Hut 2.
25, 26	"	" "
28	"	Under wall of Hut 2.

HUT-CIRCLE No. 5.

(Nos. in square brackets refer to Finds List.)

The well-marked hut-circle (No. 5 on the general plan), which lay immediately within the inner rampart on the line chosen for sectioning the earthworks (section I), was first selected for investigation. Its interior dimensions were 16 feet by 20 feet. Before deturfing it had

the appearance of a shallow saucer with little sign of down slope on its outer side. Circles 4 and 6 flanked it closely to either side, while

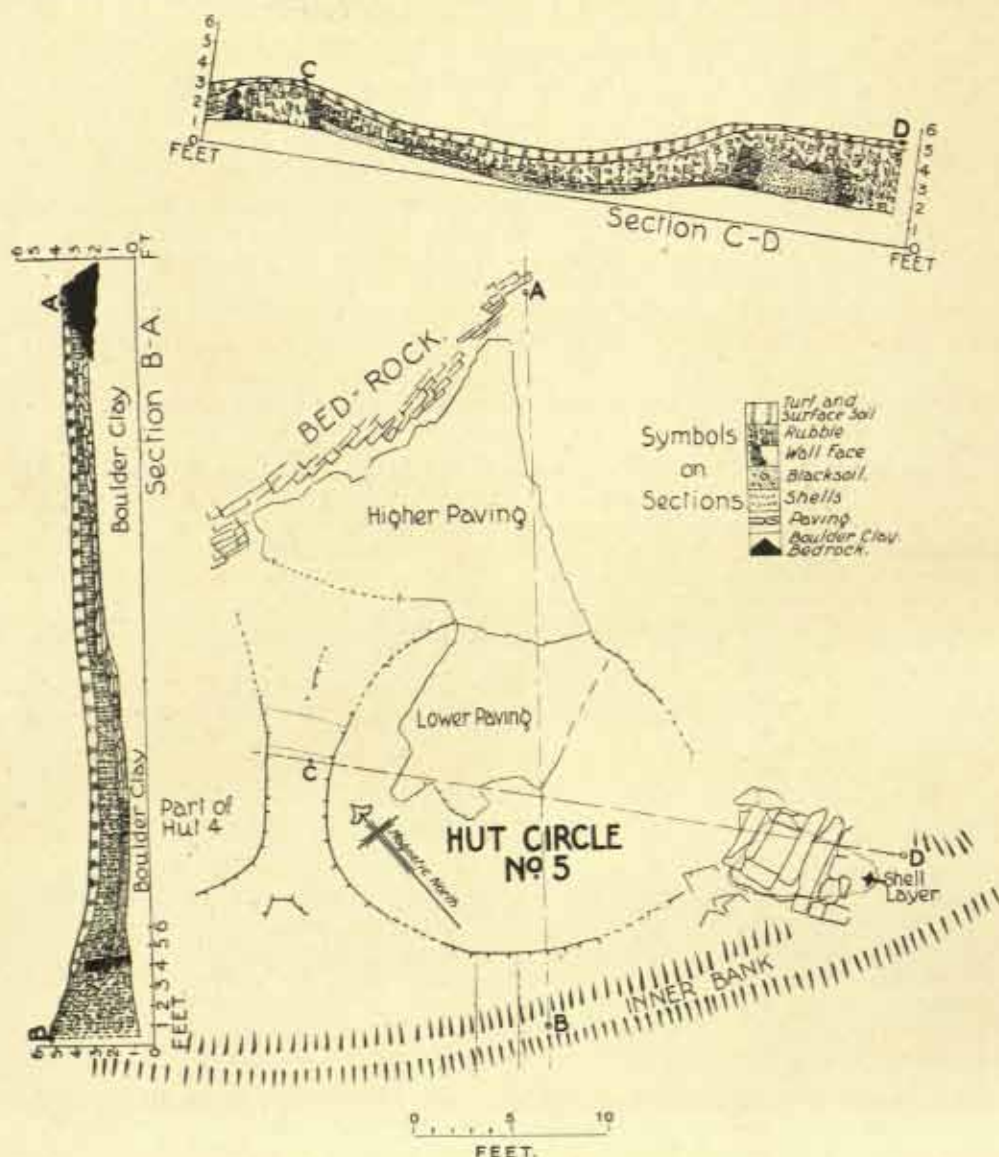


Fig. 10. Plan and Sections of Hut-Circles.

a hummock of bed-rock outcropped about 15 feet to the north. Beneath the turf and surface soil the entire floor was covered with broken

rock-fragments of fairly small size (averaging 12 inches by 9 inches by 6 inches) mixed with loose dark soil penetrated by root fibres. This loose material was removed to a depth of about 2 feet within the circle, so that traces of the inner retaining wall were exposed. A number of sherds of black ware and an ox tooth were found in this rubble, and loose soil at various parts in the circle [10, 13, 18]. The wall was clear for only short distances of a yard or two at disconnected parts of the circumference (see fig. 10).



Fig. 11. Cell at south-east end of Circle 5.

In working outwards to find traces of the hut wall adjacent to the rampart and in the section tangential to it on the east a number of large rock slabs were uncovered and found to be roughly built up and arranged to form a cell (fig. 11). The lower forward blocks lay on compacted dark clayey soil suggestive of a prepared floor or occupation level similar to that which was found over the greater part of the hut floor—this was later found to lie only an inch or two above the boulder-clay which sloped up from the hut floor at this point. The cell was later traced back into what had superficially appeared as the junctions of the walls of Inner Bank and of Hut-Circles 5 and 6. The over-all dimensions of the cell-like structure were: external width 3 feet 6 inches to 5 feet, internal width 2 feet, length 6 feet, height 2 feet 6 inches. Three narrow transverse slabs covered the central part of the top of

the cell, but the top at the western, *i.e.* hutward, end was found uncovered, leaving a rectangular opening filled almost to the brim with black and greasy earth. A number of bone fragments, shells, some charcoal, and two small sherds of a black ware [1, 2] were found in the first few inches. Below that a dense layer of shells [22] was uncovered. This layer of shells varied from 6 inches to 9 inches in thickness and was later found to penetrate far back along the line of the cell, and a few shells, forming a thin layer, even underlay some of the foundation stones of the cell itself. This cell, on complete excavation, gave the appearance of having been developed from a cavity dug out of the earthen bank forming the hut wall. The irregular distribution of the shells suggests that a shell dump preceded the erection of the walling stones which were necessitated by the accumulation of material during occupation. Half of a small bronze ring, 0.7 inch in diameter and of semicircular cross-section 0.07 inch in diameter, with a sherd of a brown ware [23], were found at the back of the large, outer corner stone at the south-west end of the cell.

A layer of dark finely-compacted greasy soil was found, on removal of the rubble, covering the surface of the south quadrant of the circle. Stones of rather smaller size than in the rubble were abundant at this level. They were interbedded with and projected through the black soil. In places they were sufficiently closely packed to suggest a former cobbling; at the northern end a rim or lug sherd of black ware was found in black soil *underneath* this apparent cobbling [20].

To the north-east of the cell clear traces of hut-walling were recovered, and against this the black soil layer deepened to form an area extending over about 2 feet 6 inches and running out about 2 feet from the wall. At its thickest it was approximately 9 inches deep, but thinned out rapidly in all directions. Beneath it undisturbed boulder-clay was uncovered. A few firmly bedded stones and a doubtful trace of burnt clay were found, but no clear evidence of a hearth was observed here.

From this pocket of black soil a round piece of stone (?), a piece of curved bronze wire, 1.9 inch long, and of rectangular cross-section less than 0.1 inch square [4], and a considerable fragment of a pedestalled goblet, 2.6 inches high, together with a number of other sherds, were found [5]. Fragments of the same or a similar goblet were also found by riddling in the superficial earth and rubble in the western half of the circle. A miniature goblet of the same form, less than 1 inch high [9], was later found about 2 feet to the south-west of this patch.

A somewhat similar but smaller pocket of deep-black soil was found adjacent to the circle wall on the south-west, *i.e.* immediately within

Inner Bank (X on fig. 12). Here close against the walling were found a cupped-stone slab (?dish, mortar or post socket) [8], and about a foot away, in two pieces, a harp-shaped bronze fibula with enamel inlay [6]. A number of charcoal fragments were found in this patch in close juxtaposition to the fibula and elsewhere. Sherds of black ware and charcoal fragments were found at several points at the very base of this black soil, that is, on the surface of the boulder-clay which



Fig. 12. View of south corner of Circle 5, showing Inner Wall of Hut-Circle built against Inner Bank.

was exposed beneath it. This boulder-clay surface was evidently produced by excavation on the part of the builders of the hut, for no old humus layer covered it, and section levelling indicated that it had a definitely saucer-shaped profile.

In extending the removal of the black soil over the north-eastern part of the hut-circle a rough paving was uncovered. It was formed of irregularly shaped slabs approaching on an average one square foot in size; gaps were filled with a packing of smaller stones which appear to have been placed there intentionally. The surface was in general very even and sloped up towards the north-east. This paving extended over the area indicated in the plan and ended irregularly towards the centre as shown; no stray slabs which might have completed

a more regular edge were traceable (see fig. 13). The greasy black soil extended over this paving and in the interstices between the slabs. It was later found that there was underneath the greater part of this paving a thin but definite layer of the black soil, an inch or so in depth, which yielded a few sherds and charcoal fragments. Beneath this the boulder-clay was encountered. The paving was exposed north-eastwards until, along a line approximating to a shallow chord on the circumference



Fig. 13. View of north-east Quadrant of Circle 5, showing probable entrance and junction of lower and higher paving.

of the circle, the edge of a second paving was found. This lay 6 to 8 inches higher than the first. No signs of a walling were found in this section and the higher paving ran on northwards for about 15 feet, where it abutted on an outcrop of bed-rock which was covered only by a thin layer of turf. The line of outcrop ran westwards, and the triangular area thus enclosed (see fig. 10) was found to be covered with this higher paving. The black-soil layer was considerably thinner and more patchy on this higher paving, but a segment of a quern [11] was found about a foot in from its south-west margin. When later a portion of this paving was removed (producing the trench in which the staff stands in fig. 13), a thin black-soil layer was found between it and the boulder-clay and bed-rock. In the south-west half, two sherds fitting together, two white pebbles, and numerous charcoal fragments [24] were found

close together in this layer. Several sherds and a stone whorl were later obtained by riddling from the black soil covering the boulder-clay and paving of the hut floor [15, 16, 17].

The walls of the hut-circle when the floor had been excavated to the level of the paving or the boulder-clay stood at an average height of 2 feet rising occasionally to 2 feet 6 inches, the core consisted of loose brownish earth and stones. The great accumulation of loose stones all over the floor of the circle indicates that the walls originally



Fig. 14. View from Inner Bank of Walling separating Circles 4 and 5.

stood considerably higher. The inner face, consisting of rather loosely packed large slab-like stones set horizontally, had a slight batter; it was, however, well preserved for only short distances, being indicated elsewhere by an accumulation of large stones which overlay the black soil and had therefore fallen in with the decay of the structure. No definite entrance could be observed, but the absence of large stones or an accumulation of rubble at the south-west edge of the higher paving appeared to indicate that, as would be expected, it lay there. Traces of outer walling were only found on the north-western side. There was no sign of it on the rampart side, and the homogeneity of the rubble core which ran uninterruptedly from the inner hut face right through Inner Bank indicated that the hut was built very shortly after the rampart. Since the rampart was no wider at this point it is

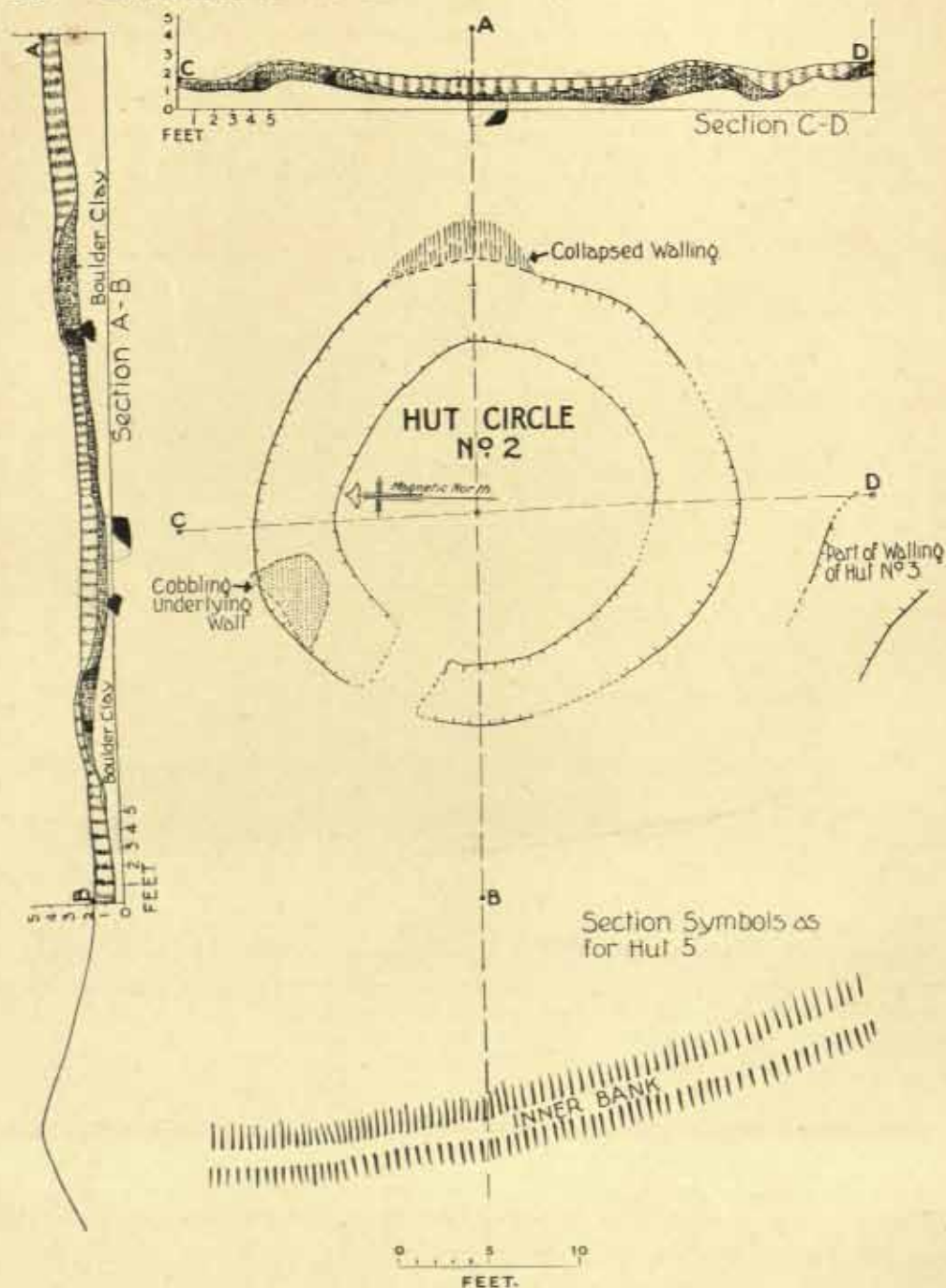


Fig. 15. Plan and Sections of Hut-Circle 2.

probable that the Inner Bank face served as hut wall in the section where the two ran parallel (fig. 12). The form of the hut was only roughly circular; it was, as it were, compressed against the rampart, so that its N.W.-S.E. axis was noticeably the longer.

Hut-circles 4 and 6 had been built closely adjacent to 5 (fig. 14). The inner wall of No. 4 was tangential to that of No. 5 on the latter's north-west side. Here a single walling faced on either side sufficed for the two huts. A fragment of charred wood [14] was uncovered at the



Fig. 16. Hut-Circle 2 after deturfing Western Half.

foot of the inner face of the wall of Hut 4 at this point. The inner faces of the two huts diverged in both directions, and the outer walls of both circles could be traced for short distances (see figs. 10 and 14). No clear evidence of post-holes, daub or a built hearth were found in this circle.

HUT-CIRCLE NO. 2.

This hut lay farther in from Inner Bank; at the closest its outer wall was 20 feet from the inner side. It was in consequence unaffected by the decay of the rampart which may have reduced part of the walling and contributed to the interior rubble fill of Hut No. 5.

The plan was a fairly regular circle with an interior diameter of 17 to 18 feet surrounded by a walling about 4 feet thick (see fig. 17).

In the first instance the west half of the hut was alone deturfed and excavated in layers in order to obtain a clear section along its N.-S. axis. The lower courses of the inner face of the wall were found fairly well preserved throughout, except for a space of about 3 feet 6 inches on the south, where the absence of face or dense rubble suggested the position of the original entrance. A depression in the walling had been noticeable at this point before deturfing. On the southern inner side of the entrance was found a large squarish block which may have framed the doorway, but elsewhere its margins were vague. An outer face to the hut-walling was also clearly traced over the greater part of the circumference. This was, however, less well preserved and had collapsed badly for some distance in the east, where the distinction between rubble core and fallen walling was vague and uncertain (along section A, B). The walling had been built up on the surface of the boulder-clay. There was clear evidence of shallow excavation of the boulder-clay both within the wall, *i.e.* to form the hut floor and also on the outer face, forming a shallow ditch which may have served to prevent water-logging of the hut (see sections, fig. 15). The standing wall faces were formed with horizontally packed slabs whose size tended to increase downwards. Very little batter was found on the faces where they were well preserved. Where best preserved, the wall faces rose about 1 foot 6 inches above the boulder-clay. They were lower and less massive than those of Circle 5. Thin patches of dense black soil were found beneath the rubble within the circle. A number of closely packed small stones were found embedded in this soil at various points, but they formed no continuous cover and no traces of paving were found. Near the centre of the circle the boulder-clay was hard, dry, and reddish, giving the appearance of having been burnt. Since, however, there was no considerable accumulation of black soil or charcoal above it and, as shown by a pit dug here, the reddish colour continued down nearly 2 feet, to bed-rock, it is doubtful whether it had any connection with a hearth. During the uncovering of the floor and walls the following were found: a number of small black-ware sherds about 6 inches outside the middle of the probable entrance [19]; a sherd of black ware and a piece of animal bone 6 inches below the turf in the rubble on the outer part of the walling in the south on line of section CD [25]; two black-ware sherds in similar position just outside the wall on the opposite side of the circle [26]; a similar sherd wedged among the fallen stones on the outer side of the wall about 1 foot 6 inches from the above.

Traces of a thick layer of dark black soil mixed with small stones were found just outside the wall to the north. This appeared to underlie

the wall, a section of which was therefore removed. A quadrilateral area of apparent cobbling about 5 feet long and 3 feet wide and 4 inches to 9 inches deep was thus exposed (see fig. 15). It lay almost entirely below the hut wall. From it a large number of sherds and some charcoal fragments were obtained [28, i-ix]. The ware was similar to the black pottery previously obtained, but the level itself must certainly have been formed before the construction of the hut.

This hut, although well preserved and affording in consequence

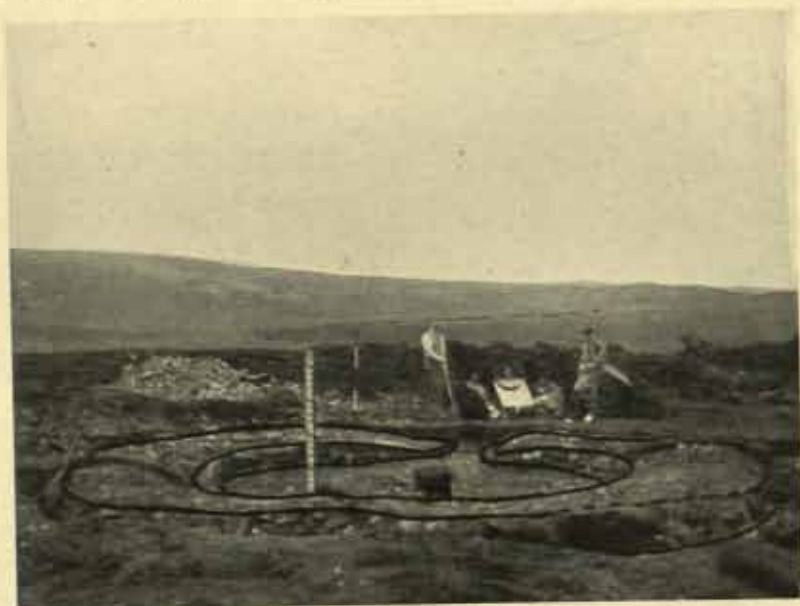


Fig. 17. Hut-Circle 2 from the east.

valuable indications of constructional methods, yielded far less evidence of occupation than No. 5. The layer of black soil on the floor was considerably thinner (see sections in figs. 10 and 15), and it will be noted that all the finds were recovered outside or underlying the hut walls. The hut in part overlapped an earlier floor to which the sub-mural cobbling belonged.

EAST FORT: THE DEFENCES.

As already explained, the defences of the East Fort are placed some way below the eastern summit of Tun Law where the ground is relatively more level and so less defensible than the slopes of the western peak. An Inner Bank encircles the whole fort, even curving round along the present edge of the cliff on the north-west. The

principal ditch is placed immediately at the foot of Inner Bank. Outside it comes a Middle Bank which joins on to Outer Bank of West Fort on the north-west. Finally the gentle slope towards Coldingham Loch on the south is protected by an Outer Bank. This runs from the cliff edge, south-east of the summit, right across the hollow separating the two peaks, and then curves back to join Middle Bank, 40 feet before that joins Outer Bank of West Fort. East of the gap in Outer Bank that seems to mark the gate there are indications of a ditch cut in the rock outside the bank. The nature of these defences could only be tested by a single trench, 8 feet wide (section V), at right angles to Middle Bank, running south-west from a point $276\frac{1}{2}$ feet from

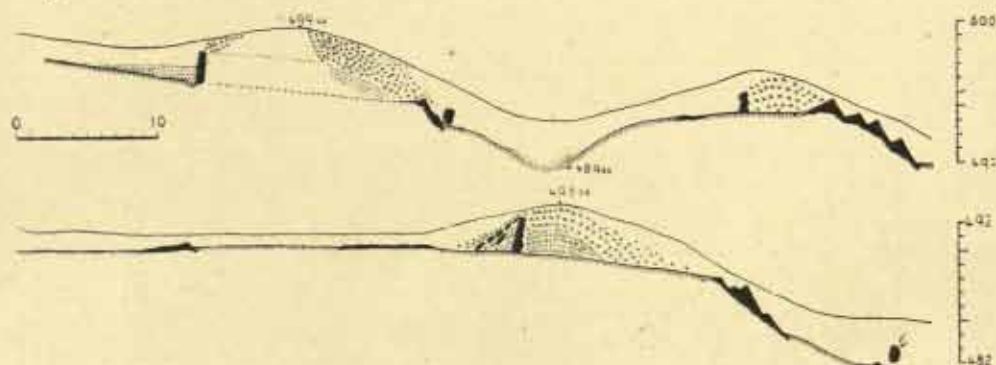


Fig. 18. Section V. (Scale in feet.)

Inner Bank, West Fort, on the line of section IIIA and cutting Inner Bank of East Fort at a point 80 feet from the gate through it. Inner Bank and the ditch outside it were, of course, also cut by section IV which started in West Fort. *N.B.*—Section V in fig. 18 has been divided for convenience in reproduction, but really represents one continuous line.

Inner Bank seems to have been piled up on the edge of a rocky ledge, outcrops of which still project above the turf at two points between the line of section and the gate. On the line of section V the crest of the rampart seems to rise less than 2 feet above the level of the turf immediately inside it. That is, however, due to a considerable accumulation of silt, washed down from the slopes above, at its base on the inside. Actually Inner Bank here rises even to-day nearly 5 feet above the underlying till. It consists of rubble, still 2 feet thick at the crest, over a core of tightly packed clay which looks suspiciously like undisturbed till. Internally the rampart is supported by a very carefully built revetment wall, consisting of big slabs on

edge supporting two or three courses of smaller ones. At the best-preserved point exposed, the wall still stands 3 feet 3 inches high and is formed of four courses of blocks with a filling of smaller stones between the second and third. Most of the blocks have been roughly squared and the joints between them have been plugged with clay, corners being packed with smaller stones. A layer of black fatty soil covered the original turf surface immediately inside this revetment. At the base of the wall the black deposit was 10 to 12 inches thick,



Fig. 19. East Fort : Inner Bank, Inner Wall.

but farther in it rapidly thinned out. Many broken animal bones and several pots sherds were recovered from this deposit. In the hope of increasing our stock of relics and to expose more of the wall, section V was extended 12 feet to the south-east along the base of the revetment (fig. 19).

Traces of an outer kerb were uncovered on the edge of the ditch 17 feet from the internal revetment. The range of large blocks here exposed (fig. 20) had, however, probably slipped outwards down the precipitous rocky scarp of the ditch; in any case, ledges of native rock were found behind and above the blocks. It is uncertain to what extent this rock scarp was a natural feature or the result of quarrying. The highest ridge under Inner Bank lay 494.25 feet above O.D.; on the

opposite side of the ditch, 17 feet away, living rock was again exposed at a level of 493 feet. On the other hand, the walls of the intervening ditch consisted of apparently intact till on which a black archaeological deposit rested directly. It would, therefore, seem likely that there had been two parallel ridges here in preglacial times, the space between



Fig. 20. East Fort: Inner Bank (outer face).

having been subsequently filled with boulder clay. On this assumption the ditch would have been nearly 3 feet deep and 11 feet wide. In fig. 20 the range pole is fixed in the bottom of the ditch. It was filled with rubble from the banks, under which came a very thin deposit of black soil containing animal bones but no artifacts. A similar deposit was found at the bottom of this ditch in section IV.

What must here be called Middle Bank stands upon the outer of the parallel ridges of rock just mentioned. It consists of earth and rubble, but is strengthened on its inner side by a core or kerb of big stones rather carelessly thrown together. Beyond the bank there is a steep

scarp of rock, the level of the rock-surface falling in stages from 494.25 feet above O.D. to less than 490 feet.

Below this rock-face, the till, interrupted by low rock outcrops, runs almost dead level, 490 feet above O.D., for 33 feet. It was covered by less than 1 foot of sterile soil. This plain is interrupted by Outer Bank,

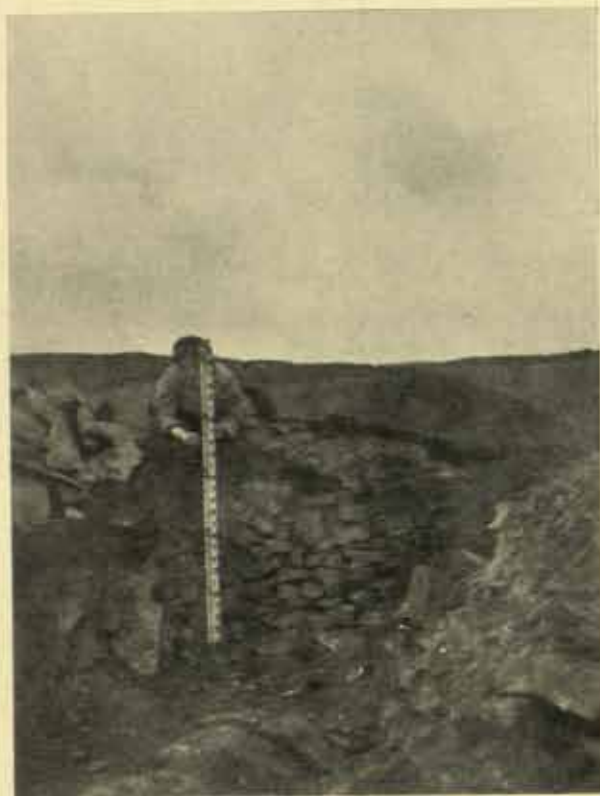


Fig. 21. Outer Wall of East Fort (inner face).

which has an apparent elevation of nearly 2 feet. It consists mainly of rubble, but is stiffened near its centre by a built wall standing 2 feet 6 inches high from the till. The wall is only one course thick and is faced on the inside only. It leans against a packing of rubble, piled 2 feet deep over a core of rammed clay and stones. A similar packing was noted against the foot of the wall on its inner side. Over this was a layer of large slabs, tilted as if they had fallen from the crest of the wall, but more probably so placed to support it (fig. 21).

The level surface of till runs under the wall of Outer Bank with a scarcely perceptible dip for a further 15 feet. Thereafter rock outcrops

and falls away in 5 feet from 487.94 feet to 483.50 feet above O.D. This scarp was probably natural, as from its foot the till continues to slope away very gently. On the line of section this slope was interrupted by a row of large boulders supporting an Outermost Bank of rubble, not superficially visible. Ten to thirty feet east from the line of section V, however, the kerb of Outermost Bank is replaced by a counterscarp quarried in living rock. Here, in fact, there exists an obvious rock-cut outer ditch outside and at the foot of Outer Bank. This is indicated on Craw's plan (Pl. V.). Outermost Bank is presumably a substitute for Outer Ditch at a point where the ground surface did not permit of a suitable excavation.

The entrance to East Fort evidently lay in the hollow between the two peaks of Tun Law. Judging from surface indications, the gates through the three banks are not in line as they are in West Fort. Only at the gap through Inner Bank could the entrances be excavated. A strip eastward from the apparent centre of the gap was uncovered here. No paving or unambiguous internal structure was exposed. The earth-fast stones shown in fig. 7 may, however, represent respectively the inner cheek and the west end of the internal revetment of Inner Bank.

As noted by Professor Forde, the apparent hut-circles near the cliff in East Fort proved on deturfing to be merely natural hollows in the rock. The only relic-bed in the fort was accordingly that at the base of Inner Bank.

THE RELATIVE AGES OF THE TWO FORTS.

The relics recovered from East Fort being insufficient to determine its exact age, an attempt was made to settle its age relative to West Fort by excavation at the point where the ramparts of the two forts join. The junction occurs on the crest of the rocky ridge on which Middle Bank 2 of West Fort also stands. It is overgrown with whins and undermined by rabbit-burrows, so that the site was not promising. On removing whins, turf, and surface soil, an irregular line of loose stones of large size was exposed. These stones, following closely the apparent line of Outer Bank, West Fort, seem to belong to a coping crowning its crest. South-east of them were other large stones which might have slid down from the same bank. Nearly at right angles to these lines, we exposed another consisting of an irregular mass of tilted slabs. These seemed to follow the apparent crest of East Fort's Middle Bank, and to denote its core or crown. This ridge lay definitely at a lower level than the stones attributed to West Fort's Outer Bank. Yet in no case did fast stones of the latter overlies the core of East

Fort's wall, but there was an apparent gap in the higher line where East Fort's core abutted upon it.

On the south-west, *i.e.*, outside the line of either wall, the land slopes away quite fast, and rabbits have been particularly busy. Where the kerb of East Fort's wall might have been expected, a couple of large slabs, orientated in the appropriate direction, were actually uncovered. These stones, however, were not earth-fast, but might have slipped. Stones certainly derived from West Fort's Outer Bank actually overlay these, but outside the line they were supposed to have marked, other stones, undoubtedly derived from West Fort's bank, were found at a lower level. Still farther south, a rocky ridge that may have been quarried continues the line attributed to East Fort's Middle Bank.

These facts are regrettably ambiguous. The circumstances that stones attributable to West Fort form a line at a higher level than the core of East Fort's bank, and that slipped stones from West Fort overlies stones supposed to have slipped down from East Fort's bank, would seem to favour the priority of the latter. But in the one case we have a core, in the other a crown. The former cannot be discovered running under the latter, but rather stops short on its line. That is compatible with the view that East Fort's bank, which is here climbing up along a rocky ridge, was continued just up to the line of West Fort's bank and no further. In that case stones from the latter might easily have slipped down over the core of East Fort's bank, when both structures were disintegrating. In other words, the bank of East Fort would have been joined on to a pre-existing bank of West Fort. This seems, perhaps, the most reasonable deduction and, of course, implies the priority of West Fort. The builders of East Fort would have taken the outworks of the older structure for their second line of rampart continuing their own inner ditch at its base right down to the cliff edge as section IV showed.

RELICS.

The forts, though undoubtedly inhabited, yielded regrettably few remains. In West Fort, relics were discovered only in the black soil on the floor of Hut-circle 5 and in the adjoining cell and under or just outside the walls of Hut-circle 2. There was no archaeological deposit in the ditch, and that in the ditch of East Fort yielded only animal bones. The only relics from East Fort were collected from the deposit of black soil against the inner side of Inner Ditch.

The Pottery from both forts was all coarse, hand-made, and undecorated. Most of the fragments were small and lacked any features indicative of age. The ware was generally dirty black to buff-red

externally, the core being always dark in West Fort. Only the cup, shown in fig. 22, *a*, from East Fort is burnt throughout to a reddish buff, but the bowl, [28*a*] from West Fort, is dark brown throughout.

The rims did not as a rule show signs of special treatment and none were definitely everted. Still the rim [19], found outside the door of Hut-circle 2, is over half an inch broad and carefully flattened down.

Two groups of forms are recognisable: open bowl-like dishes which may in some cases have had round bottoms are represented by three fragments from West Fort, two from beneath the wall of Circle 2,

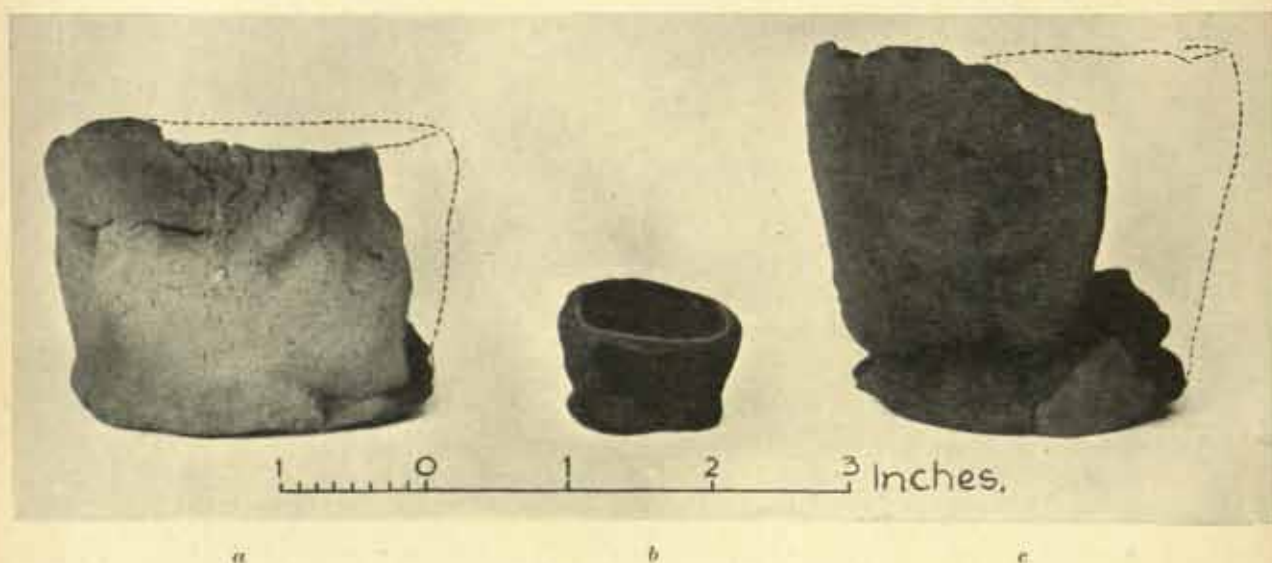


Fig. 22. Pottery.

and one from the black earth in Circle 5. The latter belonged to a coarse black-ware vessel, with a rim diameter of about 6.10 inches. One sherd from Circle 2 had formed part of a dish, 7.30 inches wide and about 3.75 inches deep, of very coarse dark-brown ware. This type of dish does not seem common and its occurrence, both on the floor of Circle 5 and under the walls of Circle 2, suggests that the erection of the latter, obviously after the formation of the sub-mural deposit, did not long precede the abandonment of the site.

The second group is characterised by flat splayed bases. Some must have belonged to vessels of considerable size; one fragment found beneath the wall of Hut-circle 2 has a wall half an inch thick. The only shape that can be restored is, however, the small goblet. The most perfect is the dark-faced vessel from Circle 5, West Fort (fig. 22, *c*). It stands 2.60

inches high and measures about 2.60 inches across the rim and 2.20 to 2.40 inches across the base. The complete miniature goblet (fig. 22, *b*) found on the opposite side of the same circle, though less than 1 inch in height, obviously belongs to precisely the same class. Close parallels are offered by a goblet from the top level at Traprain Law,¹ and another in the Society's Museum from Ghegan Rock, Seacliff, East Lothian.² The red-ware cup from East Fort must be assigned to the same family on account of its splayed base, though it is relatively wider than the foregoing; its diameter is 2.70 inches at the mouth and 2.55 inches at the base, while it stands only 2.10 inches high (fig. 22, *a*).

Metal was surprisingly rare. The most important object was the bronze fibula (fig. 23) found in Hut-circle 5 as described by Professor Forde. It was, unfortunately, much corroded, distorted by heat, and broken when found, so that an exact reconstruction is no longer possible. It is harp-shaped with a T-head, belonging apparently to the "head-stud" type (group Q of Collingwood's classification). The foot is imperfect and the massive bow much corroded, so that it cannot be asserted with absolute confidence that the back was not decorated, though on the available evidence that seems very unlikely. The catch-plate is continued as a

decreasing flange projecting from the underside of the bow to the latter's highest point; it is traversed near the foot by a small rivet. The T-shaped head had been badly bent and was broken at the base of the bow, apparently along the line of the notch in which the pin once worked. It has been possible to re-attach the broken portion which is, however, both incomplete and deformed. Still the edges of the notch are visible on both sections. On both sections there remain traces of a tube or groove, 2 mm. in diameter, that once ran the whole length of the T. Though the underside of the head has been broken off along the line of this tube, enough remains to show that the tube was only the socket for a single

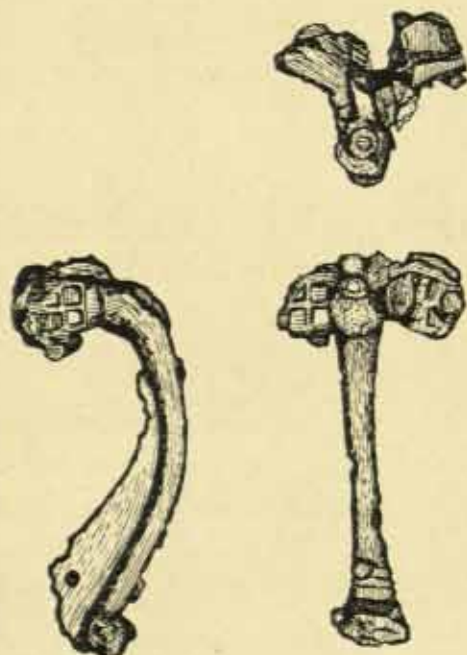


Fig. 23. Bronze Brooch. (Nat. Size.)

¹ *Proceedings*, vol. lvii. p. 196.

² *Ibid.*, vol. viii. p. 375.

strand of wire, presumably a pivot, and not the bed of a spring-coil. The brooch, therefore, may most plausibly be assigned to the hinged group.

Along the head of the bow, immediately above the notch, projects a narrow crest (incomplete), evidently the usual reminiscence of the hook which held in place the cord of the earlier spring brooches. Above the crest is an eye of blue enamel in a circular frame below overhanging scale mouldings. This is the "stud" that gives its name to the type of fibula. On the upper surface of the T-piece may be seen, on the better preserved side, a square divided into four lattices, filled alternately with red and blue enamel panes. The whole frame seems to be of silver let into the bronze or else to be silvered over.

The brooch seems later than those from the Lamberton Moor hoard,¹ but closely resembles two from Traprain found respectively in the bottom and top levels.² Messrs Edwards, Fox, and Hawkes agree that the later half of the second century A.D. is the upper limit for our specimen.

A short strip of bronze wire, flat at one end and square at the other, was found in the black earth at the east side of Hut-circle 5 and a segment of a bronze ring of semicircular section with beading on the convex exterior in the adjacent cell.

Miscellaneous relics.—From West Fort:

Stone spindle whorl (diameter 1·80 inch)—Hut-circle 5.

Hone—Hut-circle 5.

Segment of upper stone of rotary quern, 6·50 inches in diameter and 1·80 inch thick—Hut-circle 5.

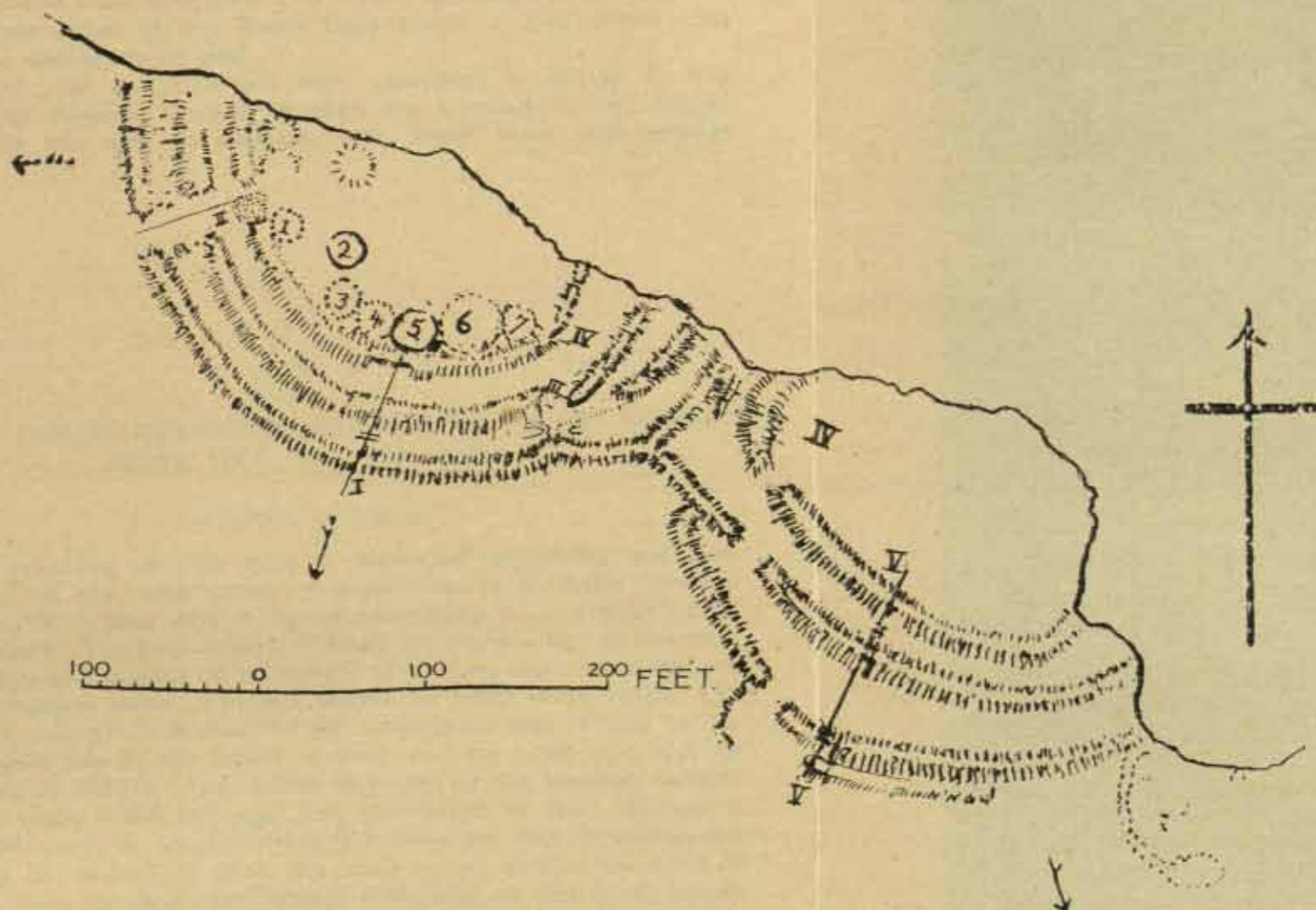
Irregular block of stone about 5 inches by 4 inches square with a circular hollow 3 inches in diameter, pecked out in the centre—a door socket or small mortar—Hut-circle 5.

From East Fort: clay button or playing man, flat on one side and convex on the other, measuring about 1 inch across, and a similar object of bone.

The complete absence of iron (a horseshoe, mediæval or modern, was, however, found just under the turf in the entrance to West Fort), Roman pottery, coins, glass or shale ornaments and bone implements, is very surprising. The relics, unfortunately, give no clue as to the relative ages of the two forts. On the strength of the pottery and brooch, West Fort at least must have been occupied at some date between A.D. 150 and A.D. 400.

¹ *Proceedings*, vol. xxxix, p. 367.

² *Ibid.*, vol. xlix, p. 167, figs. 23 (7) and 24 (3).

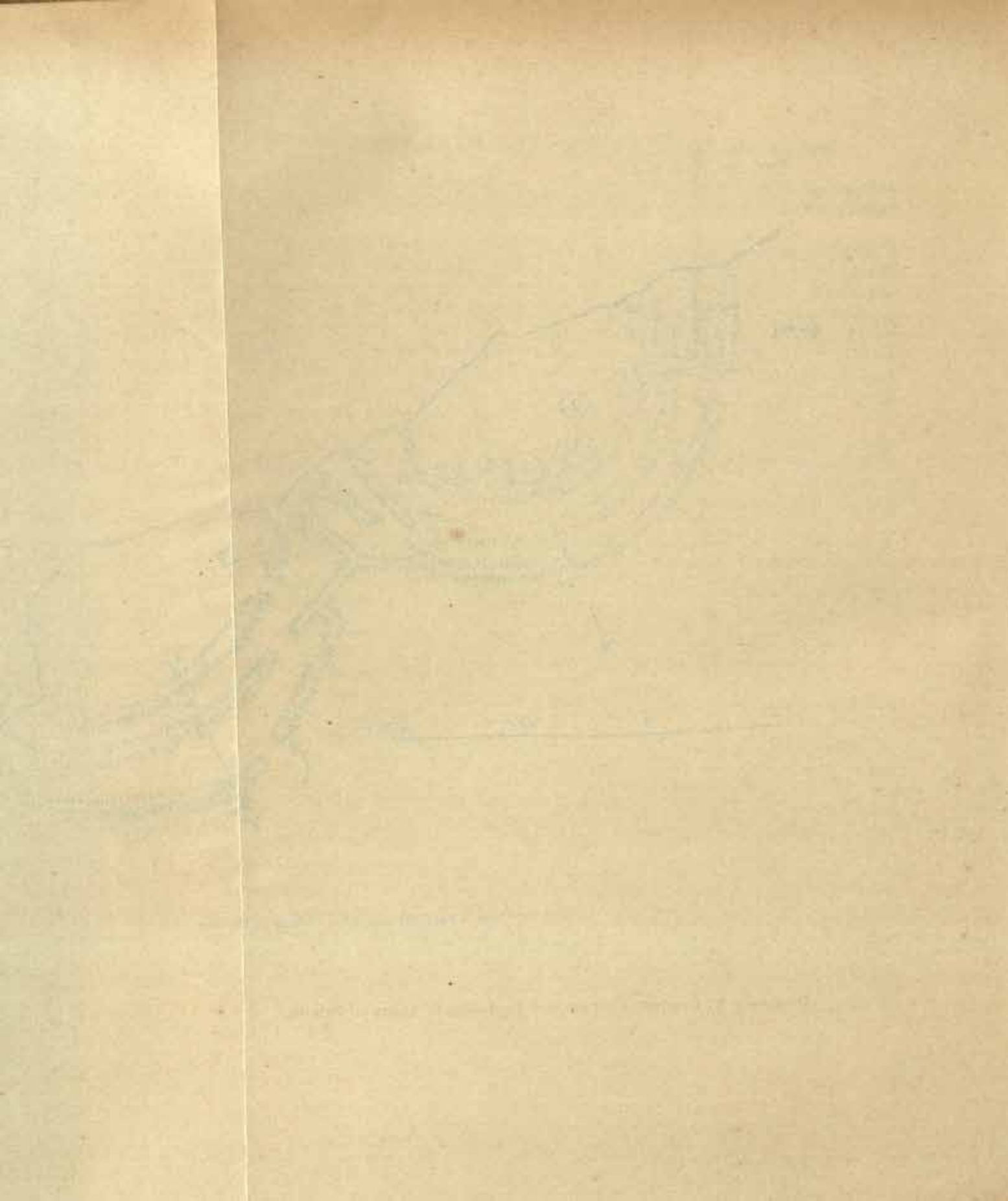


Forts at Earn's Hengeh, after Plan by J. H. Craw.

Professor V. GORDON CHILDE and Professor C. DARYLL FORDE.

PLATE V.

[To face page 182.]



The Animal Bones, all in a very fragmentary state, from the ditch of East Fort and from Hut-circle 5 in West Fort were kindly examined by Mr Bryner Jones of the Welsh Department of Agriculture. He identified ox and sheep or goat.

The Wood Ash and Charcoal were examined by Mr M. Y. Orr of the Royal Botanic Garden, through the courtesy of the Regius Keeper. He was able to recognise oak, hazel, birch, and perhaps willow.

IV.

RUDH' AN DUNAIN CHAMBERED CAIRN, SKYE. BY W. LINDSAY
SCOTT, D.S.C., B.A., F.S.A.Scot.

SITUATION OF CAIRN.

As the situation of this cairn is somewhat surprising and may throw light on the distribution of population in Neolithic times it seems desirable to deal with it before proceeding to a description of the cairn itself. The promontory of Rudh' an Dunain lies on the west coast of Skye at the apex of a triangle of uneven bog and moorland, some eight square miles in extent, broken by many small crags. The base of this triangle is formed by the precipitous line of the Cuillin Hills, its south side by the Sound of Soay, and its north-west side by the sea loch of Brittle. Just within the apex is the brackish lochan, Loch na h'Airde, which falls out into the Sound of Soay through a channel 100 yards in length which fills from the sea at equinoctial springs (fig. 1). A neck of land, 200 yards across, divides the head of the lochan from the small bay, Camas a'Mhurain, on the Loch Brittle side of the promontory. Apart from a narrow strip along the shore near the head of Loch Brittle, the only part of this area capable of cultivation is a shallow valley running west-south-west for something less than half a mile to Loch na h'Airde.

Owing to the formidable barrier of the Cuillins, beyond which lie Coruisk and the precipitous shores of the sea-loch of Scavaig, the only land access to this area not involving serious climbing is through its northern corner from Glen Brittle. This long and narrow

glen, with high hills on both its sides, is itself easy of approach only by a single pass from its head over to Drynoch at the head of Loch Harport.

Nor is access to Rudh' an Dunain easier by sea. A landing-place 3 miles to the east of the point is used in fair weather by the fishermen of Soay, but it offers no shelter and is impracticable in any sea. The head of Loch Brittle is shoal and sandy and attractive enough for flat-bottomed boats in off-shore winds, but it is unapproachable in

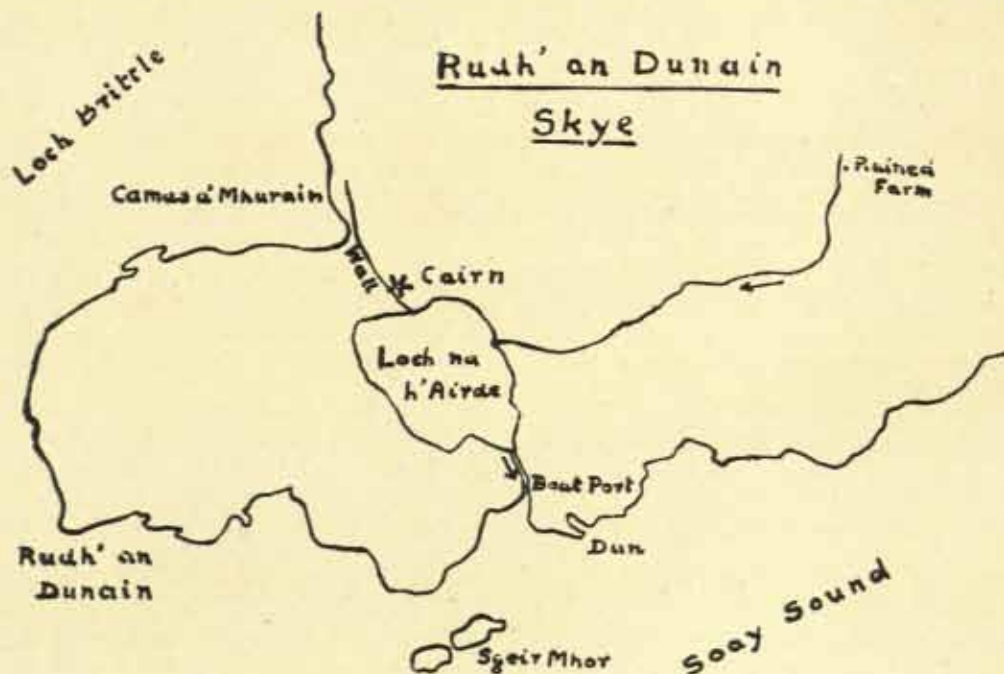


Fig. 1. Map of Rudh' an Dunain, Skye. (Scale 1 in. = 1100 ft.)

winds between south and west. Camas a' Mhurain, the small bay already mentioned north-eastward of Rudh' an Dunain, is rocky, but can be used by small boats in calm weather. The outfall of Loch na h'Airde, though its sea approach is encumbered with rocks, is sheltered on the south-west by the islet of Sgeir Mhor, which is joined at low water to the shore. It has, in fact, been used at some past period as a boat port and boulders have been moved aside to make a runway, but it would be dangerous to approach in any swell. The higher level of the land in the Hebrides in late Neolithic times, as evidenced, for example, by the position of the chambered cairn of Geirisclett, in

North Uist,¹ would have improved the shelter provided by Sgeir Mhor, and in winds in which it was unusable resort might perhaps have been had to Camas a'Mhurain, but access to the promontory by sea can never have been satisfactory.

The triangular area described is now wholly uninhabited; Glen Brittle has eleven inhabited houses, but their number is diminishing. In the eighteenth and earlier nineteenth centuries there was a larger population, and remains of houses and cultivation extend both up the glen and a mile along the southern shore of the loch. Until the middle of last century Rudh' an Dunain was farmed separately from Glen Brittle by the family of Macaskill, and the ruined two-storied farmhouse stands at the head of the shallow valley running down to Loch na h'Airde. The grave of the last Macaskill, tacksman of Rudh' an Dunain, is in the churchyard of Kilmoruy, Loch Eynort.

There is no known evidence of ancient habitation in Glen Brittle. Apart from the cairn which is the subject of this paper, the only recorded evidence of ancient settlement in the triangle of moorland of which Rudh' an Dunain is the apex is the "galleried dun" of the same name.² This massively built structure defends the neck of a very small triangular promontory, the vertical sea cliffs of which command the outfall of Loch na h'Airde and the boat port described above. As neither it, nor any of its limited class, has been excavated, its date must be a matter of conjecture, but there is no *prima facie* reason for dating it otherwise than to the Early Iron Age with the brochs which it so closely resembles.³

Attention has been drawn to the situation of Rudh' an Dunain cairn because it appears remarkable that a chambered cairn should be found in this exceptionally remote and inhospitable spot. The cairn, as will be shown below, was an elaborate structure of its class and was used in Neolithic and in Beaker times. There is a small cairn at Kraiknish on Loch Eynort, 3 miles to the north of Glen Brittle, which was excavated by the writer, and found to cover a pentagonal cist containing two beakers and a flint button scraper.⁴ This cist might possibly be

¹ The evidence has been collected by Dr J. G. Callander: *Proc. Soc. Ant. Scot.*, vol. lxiii. p. 319.

² Roy. Com. Hist. Mon. (Scot.), *Outer Hebrides, Skye, and Small Isles*, No. 483.

³ For a discussion on "galleried duns" see A. O. Curle, *Antiquity*, vol. I. p. 296, and Roy. Com. Hist. Mon. (Scot.), *Outer Hebrides, Skye, and Small Isles*, pp. xxxv and xxxvi. It is tentatively suggested by the Commission that the simpler form of galleried dun may stand at the head of an evolutionary series of increasing complexity of which the broch is the culmination. So far as it can be investigated without excavation, however, Rudh' an Dunain appears no less complex than a broch, although it is, from the nature of its site, less extensive. The distinctive features of broch structure are identically reproduced, and the manner and quality of the workmanship present no features which would differentiate it from the finest Hebridean brochs. Professor V. G. Childe comments on this subject in *Proc. Roy. Soc. Edin.*, vol. I. part i. p. 77, note 45.

⁴ Report in *Man*, October 1929.

regarded as transitional in type between the chambered cairn and the Bronze Age short cist. These two cairns provide the only evidence of habitation before the Iron Age in the mountainous area lying between the relatively fertile lands of Strathaird to the east and of Loch Bracadale to the north. The general distribution of chambered cairns in the Hebrides does not, however, suggest that they were ordinarily placed at great distances from the dwellings of the living, and the work of constructing them must have involved a substantial number of men. It seems necessary to suppose therefore that this region, which has never supported more than a sparse population in modern times, was moderately thickly inhabited in the Neolithic and Beaker periods. This is consistent with the view commonly held of the deterioration of climate and with the evidence for the growth of peat since that time;¹ freed of its covering of peat, the soil of the low ground immediately to the west and south-west of the Cuillins would support a far greater number of domestic animals than it now does.

SITE OF CAIRN.

The cairn, which is not shown in the Ordnance Survey, stands at the highest point of the neck of land between Loch na h'Airde and Camas a'Mhurain, in lat. 57° 9' 58" N. and long. 6° 18' 45" W., at a height of some 30 feet above the sea. The site is approximately level, and is now covered with rough grass and heather over the solid basalt. Although higher land lies between it and the point of Rudh' an Dunain, the view from the cairn is wide and includes the Cuillins to the north-east, the coast of Skye to the north-west, and the islands of Eigg and Rum to seaward. It is customary to remark on the view from cairns, though I confess I know of no evidence that the dead have ever been regarded, or are anywhere now regarded, as being gratified by an extensive prospect.

CONDITION BEFORE EXCAVATION.

The cairn stands to a height of 11 feet above the solid rock on which the tomb is built. The northern side is disturbed, but is probably not substantially denuded; from the highest point, which is north of the centre of the cairn and of the chamber, it slopes away at a shallow angle and the south side has obviously been largely reduced. A wall joining Loch na h'Airde and Camas a'Mhurain and skirting the cairn

¹ *E.g.* in the report of the excavation of Callanish, *Proc. Soc. Ant. Scot.*, vol. iii.

is presumably built from cairn material; one substantial slab is incorporated in it and two others lie beside its base. Except on the steepest parts of the northern face there is a thick growth of turf and heather, and that this has long been so is evidenced by the infiltration of soil into the roofed antechamber and vestibule. Before excavation seven slabs of the peristalith appeared to heights varying up to 2 feet through the material of the cairn, but there was no visible indication of any other part of the structure. The boundary of the cairn is indefinite, but a circle 78 feet in diameter approximates to the apparent present periphery. No superficial evidence appears of an encircling ditch.

EXTENT OF EXCAVATIONS.

With the kind consent of Macleod of Macleod, excavations were carried out by my wife and myself in September 1931. The chamber was found to the south-east of the centre of the somewhat dubious circle mentioned in the last paragraph; its roof was fallen in and it was excavated from the top downwards to the solid rock. Opening out of the chamber was an antechamber, roofed and in perfect condition; this was excavated from the chamber. Opening out of this was a vestibule,¹ also roofed and in perfect condition; this was excavated from the antechamber. The vestibule communicated through a portal, of which the lintel had slipped slightly forward and one jamb had tilted, with a forecourt defined by a crescentic façade which continued round a "horn" to form a peristalith. The northern half of this forecourt was excavated, though not fully out to the limits of the cairn, and the peristalith was traced round the northern "horn." Time unfortunately did not allow of the peristalith being traced further or of the southern half of the forecourt being excavated. I hope to have the opportunity to do so in the present year; meanwhile nothing can be stated with certainty about the peristalith or any other possible features external to the chamber, antechamber, and vestibule.

A careful examination was made of all save the purely superficial material excavated from the chamber, antechamber, and vestibule, and also from the inner forecourt as defined by the prone slab to be mentioned below. The extremely sticky nature of the material did not allow of the use of a riddle and it had to be broken in the hand before being picked over. Labour was not available, and the only heavy gear which could be obtained and brought to this lonely spot consisted of large drift timber from the shore, a short length of chain, and such

¹ I have adopted the term "vestibule" to describe this part of the structure, which could alternatively be considered as a very short passage. The term should be understood as impartial between these two views.

grass rope as is used locally for tethering stirks. The moving of stones too heavy to be hauled or pushed up an inclined plane formed of drift timber had therefore to be effected by levering on round pebbles. Particular difficulty was met with in dealing with the fallen roof of the chamber, which, though considerably shattered, included two slabs, each more than half a ton in weight. The southern half of the roof had fallen in first and the cairn material which had fallen after it lay below and between these two large slabs from the northern half of the roof. All efforts to shift them with a derrick improvised from drift timber and grass ropes having failed, it was necessary to clear the southern half of the chamber to the solid rock and to lever the slabs on to the cleared area. I do not think that the work suffered from the primitive nature of the gear, and insight was undoubtedly obtained into the problems of megalithic building, but there were anxious as well as strenuous moments.

GENERAL DESCRIPTION OF THE TOMB.

The axis of chamber, antechamber, vestibule, and forecourt is east-south-east; for convenience of description it will be assumed to be east. The plan and elevations (Pls. VI. and VII.) will, I hope, render detailed description unnecessary. The chamber is polygonal on plan, approximating to a circle 7 feet 3 inches in diameter; the original height of the roof must have been about 7 feet above the solid basalt floor. The antechamber is trapezoid on plan, 4 feet 3 inches in length and 3 feet 9 inches in greatest width; its height is 5 feet 4 inches. The vestibule is pentagonal, the south wall showing a recess; it is 3 feet 3 inches in length, the same in greatest width, and 3 feet 10 inches in height. As the lintel has slipped forward and slightly down, the original opening of the portal is uncertain, but its probable width is 1 foot 8 inches, and its height, as judged from the partially displaced north jamb, 2 feet 6 inches.

The whole structure—chamber, antechamber, vestibule, forecourt façade, and peristalith, so far as traced—is built on the principle of half timbering with alternate orthostatic pillars and panels of dry stone masonry (fig. 2). The orthostats stand on the solid rock and are not wedged at their bases. The stability of the chamber depends on the principle of the arch, the horizontal pressure of the cairn acting to press pillars and panels more closely together. Except in the north-west corner, where the walling diverges somewhat from the circular plan and the panel between P. 4 and P. 5 has partially slipped down and inwards, the chamber is in excellent preservation. The majority of the courses of dry stone masonry consist of single slabs stretching the whole width

of the panel, so that there was no opportunity for the panels to buckle. The pillars of the chamber are of gabbro, basalt, or dolerite, all igneous rocks available locally. Two gabbro pillars, P.3 and P.6, show hollows capable of interpretation as cup-marks; by comparison with other hollows in the same rock these seem more likely to be natural.



Photograph by Mr W. L. Coats.

Fig. 2. Eastern part of Chamber showing Antechamber partly excavated.

The roof of the chamber has been formed of large slabs of a fine-grained basalt, which splits along a remarkably plane surface and is possibly a variety of basalt found elsewhere in Skye and named mugearite. There is no evidence of corbelling. A large slab lies over P.3 and P.4 and the panel P.3/P.4, and stretches into the body of the cairn for a distance of at least 3 feet; its outer edge does not oversail the west wall of the chamber, however, and it was probably designed merely to spread the weight of the roof. A moderate-sized slab overlying P.3 and the panel P.2/P.3 probably served the same purpose.

The antechamber is approached from the chamber by a door of

which the jambs are pillars roughly square in section set diagonally (figs. 2 and 3). The door leading from the antechamber to the vestibule has similar jambs also set diagonally (figs. 5 and 6). The fine dry



Fig. 3. Doorway into Antechamber from Chamber.

stone walling of the antechamber will be seen from figs. 4 and 5. The roof of the antechamber and vestibule is composed of heavy slabs stretching into the mound on both sides. The antechamber roof slab overlaps the two slabs forming the roof of the vestibule; these two last are at the same level and join neatly. Attention may be drawn to the descending heights of chamber, antechamber, and vestibule.

The vestibule leads directly into the forecourt through a portal now partially ruined. The portal is most clearly seen in fig. 9, a photograph taken when the portal area was fully cleared; the heavy lintel is seen



Fig. 4. South Wall of Antechamber.

fallen forward and downward from the eastward roof slab of the vestibule. A large block, 3 feet 3 inches long, is shown in fig. 8 in the centre lying below the lintel in the position in which it was found; it was necessary to remove it from this position to examine the portal area. Its original purpose is obscure; it is possible that it formed part

of a superstructure to the lintel such as is found in some of the Mediterranean tombs with which comparison is made below, notably the Giants' Tombs of Sardinia.

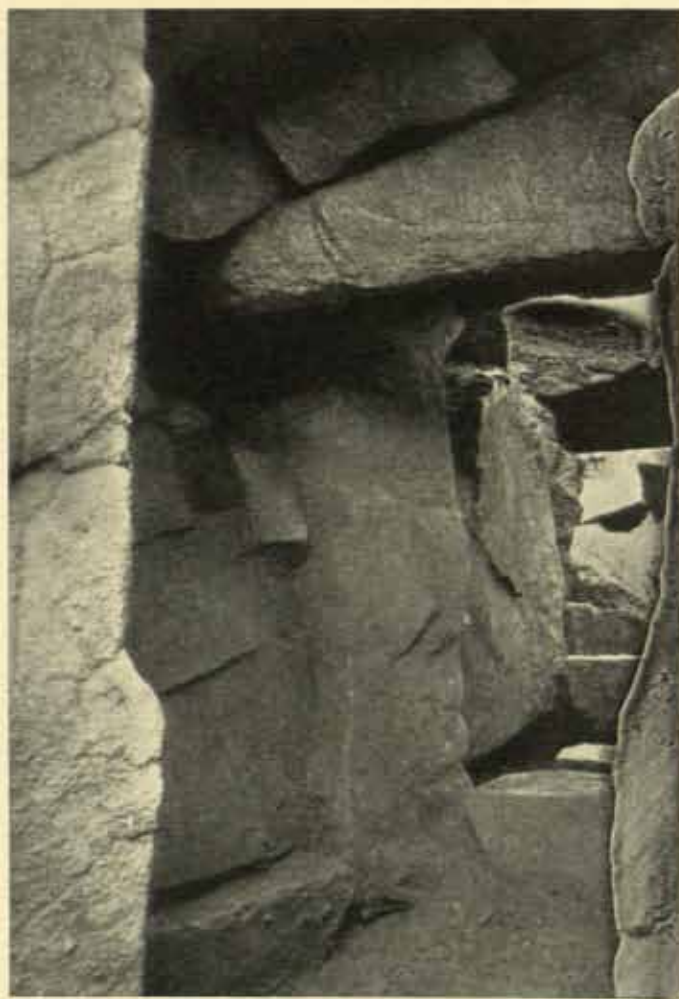


Fig. 5. North Walls of Antechamber and Vestibule.

Between chamber and antechamber, antechamber and vestibule, and vestibule and forecourt are septal slabs or blocks standing on the rock floor and varying between 9 inches and 1 foot 3 inches in height. There is a similar block in the vestibule just east of the septal block dividing this from the antechamber; it rests on the rock floor, and its most probable purpose is to form, with the vestibule-antechamber

septum, a groove to hold a door to the antechamber. Grooves, rebates, and bar holes have been found in the rock-cut tombs and *navetas* of

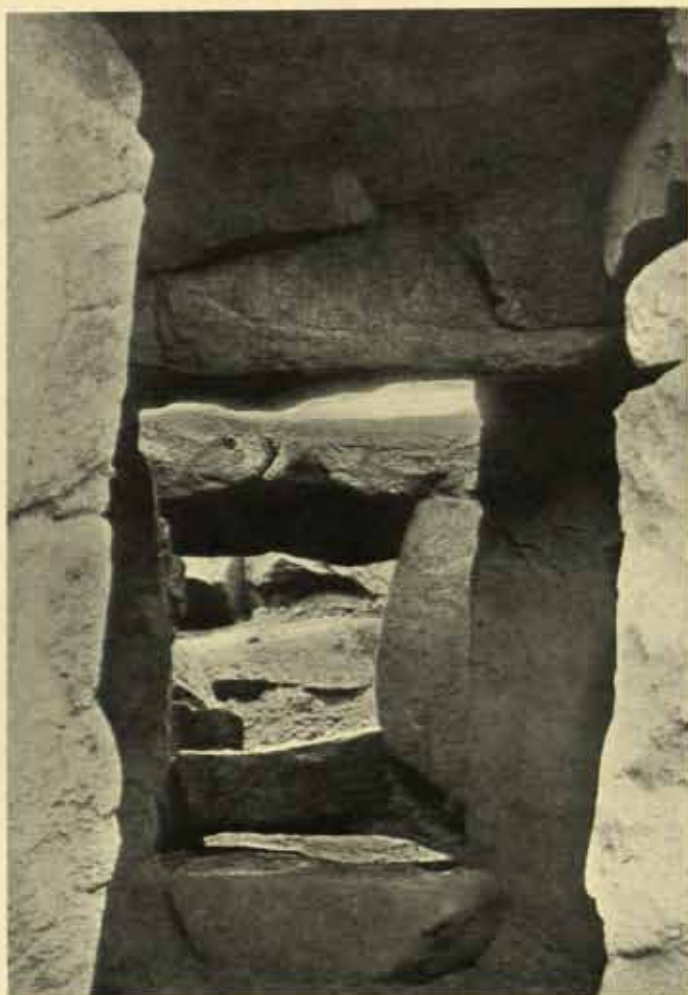


Fig. 6. Antechamber, Vestibule, and Portal from Chamber, looking east.

the Balearic Islands, where they certainly served to hold in place stone or wooden door structures.¹

The principle of the arch, which serves very well to secure the stability of a circular structure such as the chamber, is not available to maintain the forecourt façade, and this has been pressed outwards

¹ W. J. Hemp, *Archæologia*, vol. lxxvi. pp. 121-60; and *Antiquaries Journal*, vol. xii. pp. 126-35.

by the pressure of the cairn. Immediately south of the portal is a panel of which the lower courses are in good preservation (fig. 7). Beyond this is a large orthostatic block, Q.1; this has fallen forward, and its head has been broken off and lies beneath it (fig. 8). Its original height was probably about 6 feet 6 inches. To the north of the portal the first panel is completely collapsed; beyond that is an orthostatic slab, Q.2, 6 feet in height, complete and tilted slightly



Fig. 7. Portal, beginning of southern half of Façade and Prostrate Slab, looking south-west.

forward (figs. 9 and 10). The two succeeding orthostats, Q.3 and Q.4, are 5 feet and 3 feet 6 inches in height; the first is vertical and the second tilts slightly forward (fig. 10). The intervening panels, Q.2/Q.3 and Q.3/Q.4, are composed of large blocks of roughly rectangular section, but owing to the pressure of the cairn this walling is pressed outward and the upper courses are fallen (figs. 9 and 10). The panel beyond Q.4 stands vertical and to what may be its original height of 1 foot 9 inches, but the next succeeding orthostat, which stood at the extremity of the horn, is missing. The panel between this gap and the next following orthostat, Q.5, stands to a height of 1 foot 1 inch in a single course; no stones are fallen, and if a second course ever existed it must have been stolen with the orthostat at the point

of the horn. Q.5, the last orthostat reached by the excavations, stands vertical and 3 feet 4 inches in height. Some 4 feet beyond, another orthostat, about 3 feet 2 inches in height, protrudes through the cairn and is apparently vertical.

The forecourt façade thus appears as a structure crescentic in plan, with the portal at the centre of the concavity, curving round at its extremities to form rounded horns and continuous with the peristalith



Fig. 8. Portal area looking west, partly cleared.

which presumably surrounds the monument. In elevation the façade rises in height from the horns to the centre, but the portal is lower than the orthostats to north and south of it, although it is possible, as is suggested above, that it originally carried a superstructure which raised its height at least to that of these orthostats. The stability of the façade must have depended on the pressure of the cairn upon its outer as well as on its inner side, and it is to be noted that, while beyond Q.4 the orthostats and walling showed no signs, to the limited extent of the excavations, of being pressed outward, the façade of the forecourt was tilted forward and in part fallen. As this could only have occurred when the forecourt area was cleared of cairn material, it follows that such clearing had occurred at some period subsequent to the original



Fig. 9. Portal and beginning of north half of Façade, looking south-west.



Fig. 10. Northern half of Forecourt Façade, looking north.

construction. Numerous blocks similar to those of which the panels of the façade are constructed lie on ground-level or resting on one another at distances up to 3 feet from the façade (fig. 10), and they can hardly owe their presence here to the ravaging of the cairn for building material. They would, moreover, have provided particularly valuable building material, and would hardly have been left behind by people stealing stones if they had then been exposed. It occurred to me that they might have belonged to one of those stone ramps external to the peristalith, the existence of which has been discovered by Mr W. J. Hemp.¹ The blocks at Rudh' an Dunain, however, lie in no identifiable order, and nearly all flat on the ground. The only probable inference seems to be that the forecourt area was deliberately cleared to ground-level for some purpose connected with the use of the tomb.

Attention should be called to the prostrate slab, S. 5, 4 feet 9 inches in length and 1 foot 3 inches in width, which lies across the forecourt, but not quite at right angles to its axis, at a distance of 5 feet from the portal (fig. 7). This slab is not uniform in thickness, but it is wedged up so that its flat upper surface is horizontal. There seems little doubt, therefore, that its position is not accidental, and that it served some original purpose connected with the tomb.

CONTENTS OF THE TOMB.

The upper part of the contents of the chamber consisted of cairn stones, earth, and broken roof slabs, and was entirely sterile down to a height of 3 feet from the floor. From 3 feet to 1 foot above the floor was a layer of brown earth mixed with fallen stones, which will be referred to as the "beaker stratum." From 1 foot above floor-level down to the solid basalt floor was a layer of black earth of an extremely slimy character containing only a few small stones; this will be referred to as the "neolithic stratum." The dividing plane between these two strata was sharply marked. The same strata were found at the same levels in the antechamber and vestibule, the latter of which was filled to its roof and the former to within about a foot of its roof; the black earth was, however, less slimy than in the chamber. No object of any sort was found in the vestibule, and it will be convenient to treat the chamber and antechamber together. Plans of these showing the finds in the beaker and neolithic strata respectively are on Pl. VIII.

¹ *E.g.* at Belas Knap long barrow, Gloucestershire (W. J. Hemp, *Trans. Bristol and Gloucestershire Arch. Soc.*, vol. li. p. 268), and at Plas Newydd Chambered Tomb, Anglesey (report not yet published). Such a ramp supports the peristalith of a chambered tomb which I have recently been excavating in Anglesey.

BEAKER STRATUM.

The only pottery found in the beaker stratum was the beaker at fig. 11. The greater part of this vessel lay scattered in the north-west corner of the chamber at a height of about 1 foot 6 inches above the floor; the remaining fragments were not discovered in any part of the area excavated. It has been restored at the British Museum. It is a large vessel, 7·8 inches in height, with a distinct foot, a round body,



Fig. 11. Beaker as restored.

a somewhat high waist, and a straight slightly expanding neck. The paste is buff in colour, coarse, and mixed with a large quantity of grits of some dark grey stone. The waist and foot are plain; two similar bands of decoration cover the neck and the body. These bands are defined by three parallel lines above and below—four lines at the lower edge of the upper band—and divided into a series of panels by sets of four to six vertical lines. Each panel is decorated by a series of short diagonal lines extending inwards and downwards from its right and left side. A series of similar diagonal lines hangs from the lower edge of the lower band of decoration. The rim is flattened but not thickened, and is decorated with parallel diagonal lines on its edge. All the diagonal lines except those in the upper

band of panels are impressed with a comb; the remainder of the decoration is incised.

All the bones found in the beaker stratum were human. Their condition was extremely bad, and the majority of the traces of bone found consisted of no more than white slime mixed with the soil. A detailed report by Miss M. L. Tildesley of the Royal College of Surgeons' Museum on such fragments as it was possible to recover is in Appendix I. These include fragments of three skulls, and twenty-one teeth of a fourth individual; the remaining bones identifiable were consistent with belonging to these four persons. These were (1) a young man; (2) a broad-headed person aged about thirty to thirty-five, probably male; (3) a young adult; and (4) a young adult aged about eighteen to twenty. The leg bones probably associated with the broad-headed skull, showed the flattened shafts which are frequent in skeletons of this period.

The only other objects found in the beaker stratum were white quartz pebbles; four rounded pieces of pumice, which occurred both in the chamber and the antechamber; traces of charcoal; and a roughly shaped point of dark green chert 1·2 inch long.

NEOLITHIC STRATUM.

Fragments of pottery of Windmill Hill type were found scattered at varying depths within the stratum in the eastern part of the

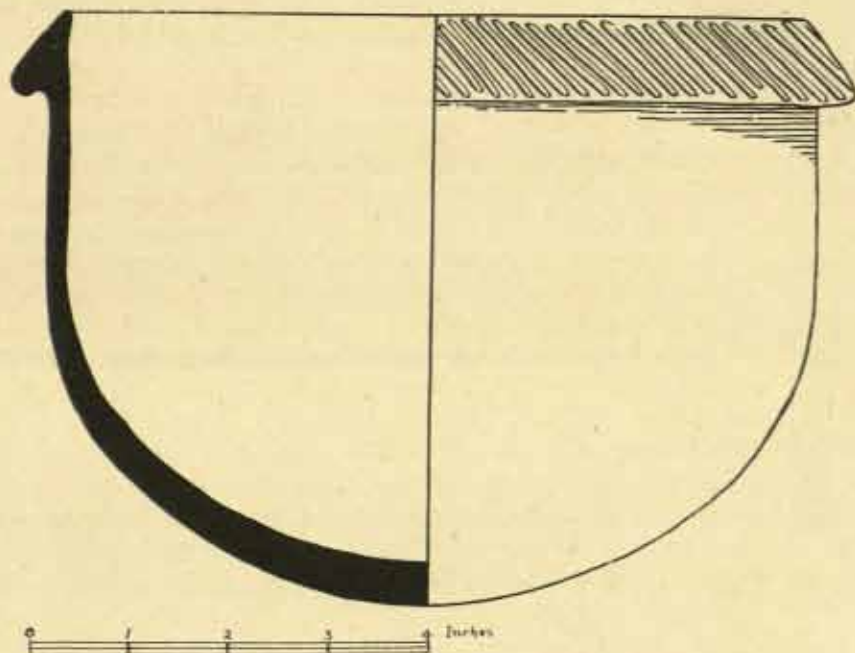


Fig. 12. Neolithic Bowl—conjectural restoration.

chamber and in the antechamber. They do not admit of restoration, but appear to represent parts of two bowls; fragments of the same vessel were found both in the chamber and the antechamber. I am indebted to Mr Stuart Piggott for the conjectural restoration of one vessel at fig. 12 and for the drawing of the rim section of the other at fig. 13. It will be seen that the first is a round-bottomed, vertical-sided bowl, some $7\frac{1}{4}$ inches in diameter and 6 inches in height, with a "ledge" rim heavily bevelled to the outside. It is composed of a fine dark grey paste containing in places pockets of a whitish substance and considerably pockmarked as a result apparently of this substance dissolving. The outer surface is burnished, and the only decoration is

close, diagonal fluting on the bevel of the rim. The second vessel, of which only a small part was found, has a straight side and a "ledge" rim slightly bevelled to the outside and was probably a round-bottomed bowl generally similar to the first. The paste is fine, grey-buff in colour, pockmarked like that of the first vessel and showing similar pockets of some foreign matter varying in colour between white and red. The outer surface is considerably shaled off, but where complete shows signs of burnishing. There is no sign of decoration, and two holes found at the same distance below the rim in two non-contiguous fragments were probably bored after firing.



Fig. 13. Section of Rim of Neolithic Bowl. ($\frac{1}{2}$ approx.)

Traces of bone were found at a number of points in this stratum, but the only certainly human bones sufficiently preserved for identification were fragments of the left half of a mandible of a middle-aged individual, probably male, B.8. In addition, a negative impression of a jaw of which the bone had completely decayed was found in the slimy black earth; the attempt to preserve it was unsuccessful. Two other deposits of bones were found. The first, B.14, consisted of a single fragment of the cannon bone of a sheep or goat, completely burnt. The other, B.11, was of special interest, as it occurred alongside of and under the foot of one of the orthostats of the chamber, P.3, in such a manner as to suggest a foundation deposit. The foot of P.3 curves upward at its southern side, leaving a small cavity between itself and the panel P.2/P.3. The bones were found up to a distance of 6 inches inwards from the face of P.3, and it is unlikely that they reached such a position by accident. They were unburnt and consisted of skull fragments which cannot be identified with certainty; a piece of the cannon bone of a young ruminant, probably a calf; a piece of the scapula of a young animal, possibly a calf; and the head of the humerus of a bird, probably a water-fowl. In Miss Tildesley's opinion (see Appendix I.) the skull fragments are probably not human. Dr Wilfrid Jackson, who has also been good enough to examine them, reports as follows regarding them: "I am sorry they are so fragmentary. This makes it very difficult to identify them with absolute certainty. I have compared the skull fragments very closely, and there is the possibility that they might be human. They appear to agree very closely in texture and in the bit of suture which is visible."

The only other objects found in the neolithic stratum were charcoal; two oval scrapers of flint, 1·2 inch and 1·05 inch respectively in greatest dimension; seven points and chips of flint and two of quartz showing no secondary working and some very minute; and a lozenge-shaped object of quartz, 1·2 inch long, which might have been an incompletely worked arrow-head, but might possibly have been natural. The scrapers were made from flat beach pebbles of flint, with a considerable amount of polished white crust remaining.

FORECOURT.

The material of the inner area of the forecourt, as defined by the prostrate slab, S.5, was examined fully. It consisted of a lower stratum, approximately a foot thick, of black earth—not slimy like that within the tomb—and above this brown earth. The lower stratum contained two small fragments of pottery belonging to the same vessel; the paste was coarse and reddish yellow in colour, and each fragment was decorated with parallel incised lines. The other finds were in the brown earth and consisted of three rounded pieces of pumice and a naturally shaped implement of a fine-textured dolerite, 7·3 inches long. This implement showed battering on its thicker end and also on a flattened surface near the point. The remaining material of the forecourt was examined only in the course of its excavation, and the only objects found, apart from a minute trace of charcoal at one point, were a number of blocks and large pebbles of white quartz. It is to be noted that two of these pieces of quartz were found in the material of the cairn vertically above the forecourt façade.

COMMENTS.

Structure. The Crescentic Façade.—While the crescentic forecourt is present in all horned cairns, the crescentic façade is found in Britain in only a few examples in Pembrokeshire, the Isle of Man, western Galloway, Arran, Sutherland, and Caithness.

The great burial chamber of Pentre Ifan, Pembrokeshire, once had a crescentic setting of orthostats in front of it, described in Fenton's *Tour*, p. 560, as "seven stones that doe stand circle wise, like in form to the new moon"; no record appears to exist of the form of the mound.¹

The Isle of Man example is the long cairn of Ballachrink, of which

¹ Mr W. J. Hemp, who has given me this reference, tells me that two standing and two fallen orthostats of this façade still remain and that near by there is an unrecorded tomb, Garn Turne, which has an irregular, deeply concave setting of orthostats of which five are still standing.

a plan and partial elevation exist in the *Reliquary*, 1884-5, p. 165, pl. xix.¹ On this evidence, which appears fairly trustworthy, the cairn had a long, tripartite (presumably segmented) chamber opening directly upon a semicircular forecourt defined by a façade of orthostats set at intervals round it. Two smaller orthostats set transversely to the axis of the chamber appear to have formed a portal.

The Galloway examples all lie in the valleys of the Luce or the Cree and are Mid-Gleniron,² Cairnholy,³ and Boreland.⁴ The best preserved of these, Cairnholy, shows a façade of orthostats, ascending in height to the centre, very similar to that at Rudh' an Dunain, but differing in that the two highest pillars seem themselves to have formed the portal (though no lintel now remains), whereas in the latter tomb the portal was a separate structure set between the highest orthostats. Probably the same form of portal existed at the other two cairns. In the present state of all these three cairns the exact shapes of their forecourts cannot be seen. All are long cairns with oblong (long cist) chambers of the general type of the Arran cairns. There is also a round cairn at Cairnholy⁵ which shows the same portal as the long cairn of the same name, but there appears no adequate reason to assume that this formed part of a crescentic façade.

Among the long cairns of Arran⁶ definite evidence of a crescentic façade exists in Cairn Ban and East Bennan and can with fair certainty be inferred in the Giants' Graves and Moinechoill. These appear to have resembled the Galloway examples in that the central orthostats of the façade themselves formed the portal. The shape of the forecourt seems to have been approximately semicircular, the façade joining at right angles the peristalith, which, after a short distance, turned again at right angles along the more or less parallel sides of the cairn. The chambers are in all cases of the oblong or long-cist type.

In Sutherland, the southern of the two long cairns in line with one another at Coille na Borgie,⁷ Strathnaver, shows a crescentic façade at each end. That at the north end, in the centre of which is the portal, appears from the plan and sketch given to have been semicircular, and the portal would seem to have been a distinct structure. As is noted below,

¹ I am indebted for this reference to Mr Stuart Piggott, who tells me that he has examined the pottery from this tomb preserved in the Manx Museum and ascertained that it is of neolithic type.

² Roy. Com. Hist. Mon. (Scot.), Wigtown, No. 261.

³ *Ibid.*, Kirkcudbright, No. 228.

⁴ *Ibid.*, No. 362.

⁵ *Ibid.*, No. 287.

⁶ Professor T. H. Bryce in the *Book of Arran*, vol. i. pp. 33-155.

⁷ *Proc. Soc. Ant. Scot.*, vol. xviii. pp. 228-33, and J. Anderson, *Scotland in Pagan Times*, vol. i. pp. 200-3.

the internal structure of this tomb closely resembles Rudh' an Dunain. There is a more or less round cairn at Achany¹ in eastern Sutherland which shows a continuous kerb round the periphery from which branches a shallow crescentic setting of slabs of which the axis coincides with the assumed position of the passage; the chamber is bipartite and oblong. It can also be inferred from Anderson's account of his excavation of one of the long-horned cairns at Yarrows, Caithness, that this had a façade rising in height to the portal. This façade was constructed of dry walling, the method of building characteristic of the Caithness cairns generally.²

With the exception of Achany, which shows marked signs of degeneracy, Rudh' an Dunain is the first short cairn to be found with a crescentic façade, although of course crescentic forecourts exist in the short-horned cairns of Caithness, and these may originally have had façades ascending in height to the portal. The façade forms an arc somewhat less than a semicircle and curves smoothly into the peristalith. This follows almost inevitably from the round form of the cairn and perhaps represents a transition on the way to the slight inseting of the peristalith in the portal area shown in round cairns such as Cairn T at Lougherew, Co. Meath.³ A certain analogy exists with those long barrows of western England and Wales⁴ which show a sharp incurving of the enclosing wall to a true or false portal, but in these the forecourt is narrow and cuspidal and not in the shape of a crescent.⁵ If, as may well be, they represent a development of the same idea it is quite a separate development.

In its more perfect state of preservation Rudh' an Dunain shows better than any other chambered tomb in Britain the crescentic façade rising in height to a portal. It alone has its panels of masonry joining the orthostatic pillars, and it shows more clearly than any other the relation of the façade to the portal on the one hand and to the peristalith on the other. The close similarity with the crescentic façade of the western Mediterranean will be noticed. It has been argued⁶ that this form originated in southern Spain, where examples are found at Los Millares, and thence spread to the Balearic Islands, where the feature is shown in some of the *navetas*; to Sardinia, where magnifi-

¹ Roy. Com. Hist. Mon. (Scot.), *Sutherland*, No. 447.

² J. Anderson, *Scotland in Pagan Times*, vol. i. p. 238, and *Proc. Soc. Ant. Scot.*, vol. vi. pp. 442-51.

³ G. Coffey, *New Grange*, p. 86.

⁴ E.g. Hetty Pegler's Tump, Rodmarton, and Belas Knap, Gloucestershire, and Capel Garmon, Denbighshire.

⁵ West Tump, Gloucestershire, shows a very shallow crescent.

⁶ By E. T. Leeds, *Annals of Archaeology and Anthropology*, vol. ix. pp. 29-40.

cent façades rising to an impressive portal are seen in the Tombs of the Giants; and finally to Malta, where the so-called temples show massive crescentic façades. Despite the distance between Los Millares and Pembrokeshire, and the absence of geographically intermediate forms,¹ it is difficult to resist the conclusion that the British façade derives ultimately from that of southern Spain. The fact that the British sites are all on the west or north coasts and close to the sea renders such dissemination of the type by the Atlantic route plausible, and the fact that the Spanish examples belong to the Copper Age involves no anachronism considering the late arrival of copper in the north.

It is only proper to point out that, unless we can derive Windmill Hill pottery from the pottery of the Portuguese dolmens,² these similarities of tomb form between Iberia and Scotland are not paralleled by any corresponding similarity in tomb furniture. In the light of the latest researches of Professor V. G. Childe³ this difficulty is one which may possibly have to be accepted as extending to the megaliths of north-west Europe as a whole. If Windmill Hill pottery represents a British development of a premegalith type common to western Europe, the megaliths are left without any distinctive pottery; although, as Professor Childe points out, there is an important connection as regards decoration between Becharra pottery and certain types from megalithic tombs in Brittany. On this view we are left to draw the uncomfortable inference that the megaliths are the tombs of raiding chiefs from the Atlantic coasts of the Continent, who, on settling in Britain, adopted alike the women and the pottery of the country.

Other Structural Features.—In its general internal structure—vestibule, antechamber, and chamber ascending in height—Rudh' an Dunain is in marked contrast to the narrow oblong chambers of Galloway, Arran, and Argyll. It resembles certain of these, however, in the absence of a passage and the presence of septal slabs. Except in its large, polygonal main chamber, it has little resemblance to the common Hebridean type of a single chamber with a long, low passage and little or no sign of antechamber. Its closest analogy is again with the Sutherland long cairn of Coille na Borgie mentioned above and with the neighbouring

¹ It would be possible to cite the megalithic structures of Annaclochmullin and Newbliss as Irish forms, but the accounts available (summarised in W. C. Borlase, *The Dolmens of Ireland*) leave some doubt both as to the plans and the purpose of these monuments.

² As argued, for example, by E. T. Leeds in the *Antiquaries Journal*, vol. vii, pp. 456-62.

³ V. G. Childe, "The Continental Affinities of British Neolithic Pottery," a paper which I have had the privilege of studying in advance of publication. It will be published in the *Archæological Journal*, vol. lxxxviii.

long cairn of Skelpick.¹ Both these have three chambers increasing in size and apparently also in height, but they have also fairly long passages. (As has been pointed out above, it would be possible to regard the vestibule of Rudh' an Dunain as a very short passage.) The method of construction at Rudh' an Dunain, which I have compared to half timbering, is found at Skelpick, and apparently also in the main chamber at Coille na Borgie. This type, which appears to me to represent a distinct structural method, is elsewhere rare²—there is a Welsh example in the Capel Garmon tomb already mentioned—although of course dry walling was widely used to fill interstices in buildings whose stability depended upon their orthostats alone. The typical Caithness cairn is essentially a dry-walled building, with orthostats set transversely to give rigidity. Rudh' an Dunain therefore corresponds most closely in structure with these Sutherland long cairns, but the presence in it of septal slabs seems to be unique among Scottish cairns of the large, polygonal chamber type. The septal slab, however, appears in Ireland in a group of cairns on Carrowkeel Mountain, Co. Sligo, which contained food-vessels and had chambers of complicated, but principally cruciform, plan.³

The recess in the southern wall of the vestibule has a close parallel in the recess⁴ just within the door checks of the passage of Maes Howe, Orkney, but does not appear to be found elsewhere in Britain. A vague analogy exists with the small recesses on each side of the passage just within the portal at Bryn Celli Ddu, though these Mr Hemp regards as the vestiges of an antechamber,⁵ and with the square recesses opening off the passage in Stoney Littleton long barrow, Somersetshire. Examples of small chambers or recesses off a passage can be given from chambered tombs in the western Mediterranean area, and the well-known tomb with crescentic façade at Los Millares has a round recess in the left-hand side of its short passage just within the portal. Nothing was found in the recess at Rudh' an Dunain, and I am not aware of any evidence from other examples to indicate any ritual purpose. It is possible from their presence behind the portal that they represent merely some feature in the nature of a guard chamber inherited from

¹ *Proc. Soc. Ant. Scot.*, vol. vii, pp. 273-4, and J. Anderson, *Scotland in Pagan Times*, vol. i, p. 263-4 with plan.

² Mr W. J. Hemp has suggested to me that this method of construction could be considered typical of those dolmens which now show only separate orthostatic pillars if it could be assumed that the spaces between these were originally filled by panels of masonry.

³ *Proc. Roy. Irish Acad.*, vol. xxix., Section C, pp. 311-47.

⁴ Mr Stuart Piggott has very kindly shown me a large-scale plan and elevation of this from *Notice of Runic Inscriptions discovered in Recent Excavations in the Orkneys*, made by James Farrer, M.P. Printed for private circulation, 1862.

⁵ *Archæologia*, vol. lxxx, p. 191.

domestic architecture. I have mentioned above (page 192) the possible inference from the position of a block of stone in the vestibule that this, with the vestibule-antechamber septum, formed a groove to support some stone or timber door structure to the antechamber. Apart from this no evidence existed at Rudh' an Dunain that the portal was blocked otherwise than by the stones of the cairn; a very large rounded stone was indeed found just within the portal, but this was not sufficiently much larger than other stones of the cairn to justify an inference that it had not fallen there from above.

Attention must also be drawn to the prostrate slab in the forecourt which, being chocked level, may be assumed to have served some ritual purpose. Since the close investigation of the forecourts of chambered tombs had hardly been attempted before Mr W. J. Hemp called attention to its importance by his study of Bryn Celli Ddu, it is not surprising that no analogies to this slab can be quoted. In the forecourt of that tomb, however, about 10 feet from the entrance, there was a structure¹ some 10 feet by 7 feet defined by two short parallel stone walls with a line of post-holes joining their inner ends, and it is to be noticed that this, like the prostrate slab at Rudh' an Dunain, was set slightly askew with the axis of the monument. If conjecture may be permitted where nothing is known, both these features represented arrangements for the use of the relatives of the dead who may be expected, on the analogy of primitive modern practice, to have watched the tomb for a prescribed period after the burial.

The Burials.—The facts available for the consideration of the period and method of use of the tomb are: (1) the definite stratification of the burials in a lower black-earth stratum marked by neolithic pottery, and an upper brown-earth stratum marked by beaker pottery; (2) that there were not less than two burials in the neolithic stratum and not less than four in the beaker stratum; (3) that the only skull complete enough to allow of classification was broad-headed, and was from the beaker level; (4) that the beaker was of a typically British shape common in north-east Scotland (*cf.* page 208); (5) that parts of the same neolithic bowl were found in the chamber and the antechamber on opposite sides of the septal slab; (6) that a deposit of unburnt bones was found beside and under the foot of one of the orthostats of the chamber in the neolithic level; (7) that fallen walling blocks lay on the floor of the forecourt below the stones of the cairn in such a position as to make it virtually certain that their presence was not due to a modern clearing of the forecourt in quarrying the cairn for stones.

¹ *Archæologia*, vol. lxxx, pp. 194-6. An ox's carcass was found in a pit in the centre of this structure, but it was not possible to ascertain certainly that this was an ancient burial.

There is an almost complete absence of record of stratified deposits in other English and Scottish chambered tombs to compare with the stratified deposits in dwelling sites, such as the ditches at Windmill Hill, which showed Windmill Hill pottery under Peterborough pottery under beakers. There is a fair amount of evidence of the prevailing dolichocephalic character of the neolithic inhabitants of western Scotland. There is also a good deal of evidence that vessels deposited in megalithic tombs were normally deposited whole and not strewn about as sherds.¹ With these premises the inferences suggested below are drawn in respect of Rudh' an Dunain; the degree of probability attaching to each must be judged from the facts listed in the preceding paragraph.

The tomb appears to have been in use for successive burials² during a period long enough to account for the thickness of the neolithic and beaker strata. During that period "beaker folk" entered Skye from the mainland and became sufficiently absorbed into the native population to allow of their being buried in a native tomb. Their arrival, however, involved some change in burial customs, as evidenced by the difference between the black earth of the neolithic and the brown earth of the beaker stratum, though exactly what this difference was is obscure. When later burials were made the vessels belonging to earlier burials were thrown out from the chamber, and the forecourt area was cleared to its floor of cairn material—no doubt for the proper performance of the ritual of the dead. Finally, and subject to the remarks made below, a foundation deposit was made at the foot of one of the orthostats when the chamber was erected.

It is unfortunate that the skull fragments included in this deposit admit of no certain determination as to whether they are human or animal. Even, however, if the latter were the true view, it would be difficult to interpret the deposit as one of food made in connection with a burial, because the skull fragments were placed up to 6 inches under the orthostatic pillar and the bones identified belong mainly to parts of a carcass which are not edible. Despite the complete absence of record of foundation burials under chambered tombs,³ the probability that such sacrifices were made is not negligible; since the

¹ Compare, however, Thurnam's statement that the sherds in the chamber of West Kennet long barrow, Wilts, were deposited in separate heaps and did not represent complete vessels (*Archæologia*, vol. xxviii. p. 417).

² Mr W. J. Hemp has stated the argument for supposing that some chambered tombs were not used, or at least were not intended, for successive burials, in a recent paper in *Arch. Camb.* (December 1931), p. 253.

³ At Bryn Celli Ddu there was a deposit of a burnt, human ear-bone, an unburnt piece of hazel, and charcoal fragments in a slab-covered pit, three feet outside the west wall of the chamber and exactly at the centre of the monument. This was clearly in some sense a foundation deposit connected with the erection of the tombs. (*Archæologia*, vol. lxxx. p. 196.)

bases of the orthostats are normally some feet below the floor of these tombs and have very rarely been reached by excavation the negative evidence proves nothing. The practice of burying a human being or an animal under, or actually clasping, the post of a house, or under a wall or foundation-stone, is spread all over the world and can be shown to be of great antiquity.¹ It still survives in modern Greece, where a cock, ram, or lamb is buried under the foundation-stone of a building; in Transylvania, where human shadows are buried and the owner of the shadow is expected to die within forty days;² and Mr Stuart Piggott tells me that in Hampshire in recent years a parson was held in talk by a mason while the latter, after ascertaining by discreet inquiry that the parson was a first-born son, built his shadow into the foundation of a churchyard wall. The foundation burial of two women beneath the wall of a hut at Skara Brae gives evidence of the practice in Scotland in late Bronze times.³ There were cremations in all but six of the thirty-two holes so far excavated in the "Aubrey" circle at Stonehenge,⁴ and it is highly probable—though it does not appear previously to have been suggested—that these represented sacrifices of human beings whose souls were intended to hold up the wooden pillars which these holes contained.⁵ The same purpose may explain some of the burials at the foot of standing stones, whether isolated stones or members of stone circles, and particular attention may be called, since these belong to a chambered tomb, to the cremations at the foot of monoliths of the inmost circle surrounding Bryn Celli Ddu.⁶

Pottery.—In our present knowledge of British neolithic pottery it is not possible to say more of the two neolithic bowls than that they are of Windmill Hill type and that they do not show the decorative motives of those vessels classified by Professor Childe as the Becharra group. The holes below the rim in the second vessel are not likely to be rivet holes and may well have been bored for purposes of suspension; being made after firing they are not likely to have been for decorative purposes as in some neolithic vessels from the south of England. Judged by its shape, the beaker is of a late British type particularly common in N.E. Scotland. Its decoration is apparently unique, the nearest parallel in Abercromby being No. 290, probably

¹ V. G. Childe, *Skara Brae*, p. 142.

² Sir J. G. Frazer, *The Golden Bough*, abridged edition, p. 191.

³ Dr J. G. Callander, on the other hand, argues that Skara Brae dates from the Early Iron Age, *Proc. Soc. Ant. Scot.*, vol. lxx, pp. 103-14.

⁴ Lt.-Col. R. H. Cunnington, *Wiltshire Archaeological Magazine*, vol. xlv, p. 338 (July 1929).

⁵ That this is an original belief from which foundation burials arise is shown by Sir J. G. Frazer, *The Belief in Immortality and the Worship of the Dead*, vol. i, p. 446.

⁶ *Archæologia*, vol. lxxx, pp. 201-4.

from Ross and now in the Scottish National Museum. This shows the same arrangement as does the Rudh' an Dunain beaker of simple decoration in rectangular panels arranged in two horizontal bands and shows also the same edge decoration. Metopic decoration is, of course, fairly common on British beakers and derives from central Europe, being unknown on Spanish or Breton beakers. Edge decoration as on the Rudh' an Dunain beaker is rare in England outside Yorkshire,¹ but it is not uncommon in Scotland and may be due to the influence of neolithic pottery. It may accordingly be inferred that the maker of this beaker reached Skye from the mainland.²

Quartz.—The presence of white quartz near the surface of the mound over the forecourt façade shows that pebbles and blocks of this rock were spread over the mound and not merely distributed round the periphery. No quartz was found in the neolithic stratum within the tomb, and that found in the beaker stratum, though probably a funerary deposit, might possibly have fallen in with the material of the cairn.

Pumice.—The finding of seven lumps of pumice in the beaker level in the chamber and antechamber, and in brown earth in the forecourt, raises a question which does not seem previously to have been discussed. These lumps varied in greatest dimension from $1\frac{3}{4}$ inch to 3 inches and showed no signs of use. Dr H. O'Neill Hencken has very kindly given me the following information: "About thirty years ago the late George Bonsor found a piece of pumice in a passage grave on St Mary's Island in Scilly. With it were pieces of pot like those of the earliest Bronze Age in Cornwall and Brittany. Bonsor subsequently told me that he had also found pumice in some megaliths in southern Spain, and that he supposed the people used it instead of soap. I don't know whether he ever published these finds." The Scilly find is in the British Museum and is a small rounded lump, pierced near one end. I have myself found a large piece in a chambered tomb in North Uist at which I have been working; this had a flat face and had presumably been used for rubbing down wood or skins. A number of references to the finding of pumice in sandhill sites will be found in Erskine Beveridge's *North Uist*, but slag is also found in these sites, and in the absence of

¹ Mr T. D. Kendrick kindly informs me that, of the beakers in the British Museum, three, or possibly four, from Yorkshire have some ornament inside the lip, and one from the Thames at Mortlake.

² It has been argued by Miss Margaret Mitchell in *Antiquity* (March 1932) that it is necessary to postulate sea-borne invasion from the south-west to account for the "B beakers on the western Scottish seaboard as well as for the more northerly 'A and C' group in Lewis, Uist, and Skye." I agree with Mr J. G. D. Clark in the same number of *Antiquity* that the latter group, to which the Rudh' an Dunain beaker belongs, derive from the English A beaker by movement up the east coast of Britain.

microscopic examination this appears not always to be distinguishable from pumice.¹

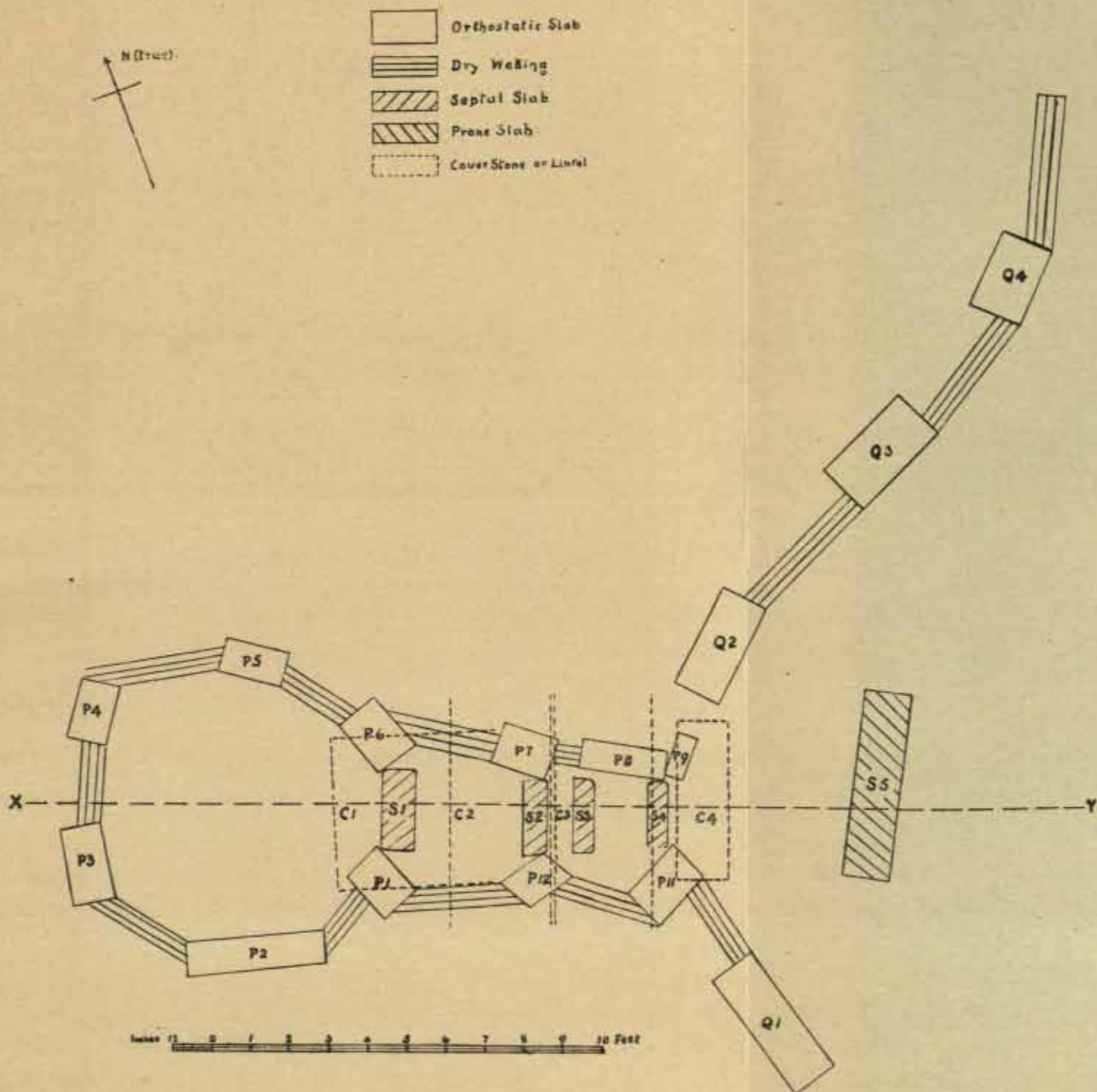
I am indebted to Dr H. H. Thomas of the Geological Survey for the full investigation of the origin of this pumice which is published in Appendix II. It will be seen that the pumice is basaltic and probably of West Indian origin, carried to Hebridean shores by ocean currents; it is definitely not of Mediterranean origin, and it is not necessary to suppose that it was brought by human agency. Present information does not allow of a conclusion as to whether it was designed for the practical use of the dead or for some magical purpose; the North Uist example suggests the former and the Scilly example the latter, though the mere fact of being pierced for suspension is not conclusive against domestic use. The Rudh' an Dunain finds, being unworked, are more suggestive of a magical use and, though those in the forecourt may have been thrown out of the chamber on the occasion of a later burial, it is more likely that they were not a funerary deposit.

The most probable view seems to be that pieces of pumice, like quartz pebbles and shells, served as receptacles for souls and therefore, at a later stage of development, as charms. The fact that pumice is full of holes may be significant as allowing the entry of a soul without the necessity of breaking the lump, as was frequently done with quartz pebbles. It may also be significant that pumice floats, having regard to the widespread desire to provide a boat for the dead to enable him to reach his ultimate resting-place. A modern Serbian ritual performed on the anniversary of death may throw some light on this. The wife or daughter of the dead man takes wet pebbles from a river, places them on the bank with food upon them and, when the soul is attracted to the stones by the food, makes circles round them to enclose it in the stones. These are then placed on small planks with lighted candles and sent floating down the stream. The purpose is clearly to facilitate the soul's departure by water to its last home.

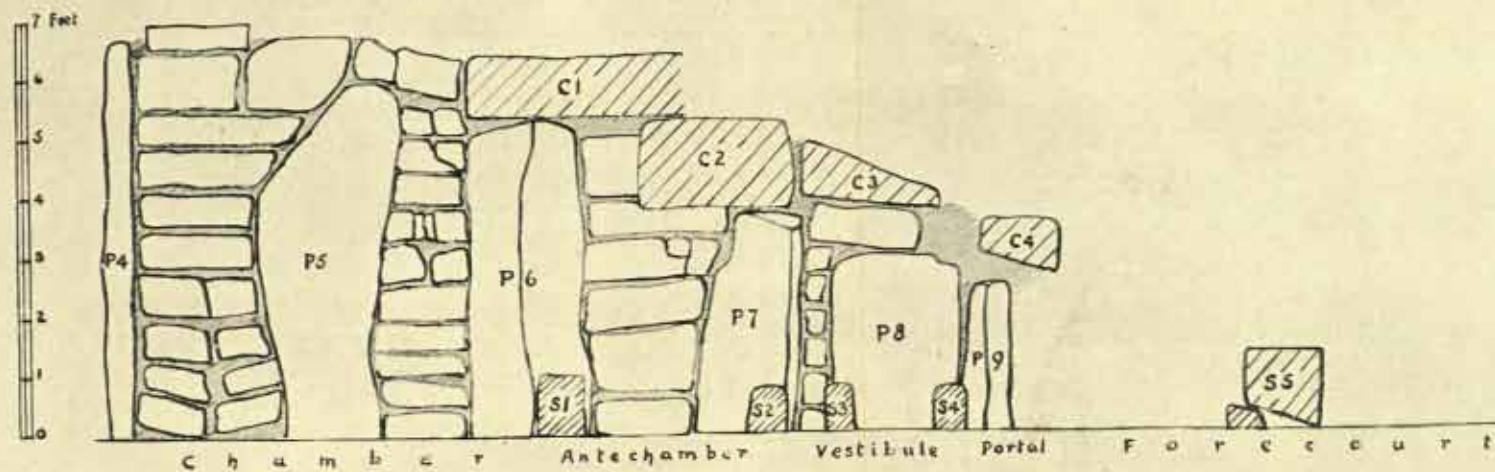
I desire, in conclusion, to acknowledge with gratitude my indebtedness to Macleod of Macleod for permission to excavate the cairn and to the Council of the Society of Antiquaries of Scotland for approaching him to that end; to Mr Macrae, the tenant of Glen Brittle, for his interest in the work and the loan of tools; to Miss M. L. Tildesley of the Royal College of Surgeons' Museum for the report on the bones; to Dr J. Wilfrid Jackson of Manchester University for a supplementary report on some of the bones; to Dr H. L. Riley of the Imperial College

¹ Dr J. G. Callander cites a number of finds of pumice from earth-house sites of the Early Iron Age, and from brochs in the Hebrides and Orkney, and one from an inhabited site in the Firth of Forth. He suggests use for rubbing down bone.—*Proc. Soc. Ant. Scot.*, vol. lxxv. p. 350.

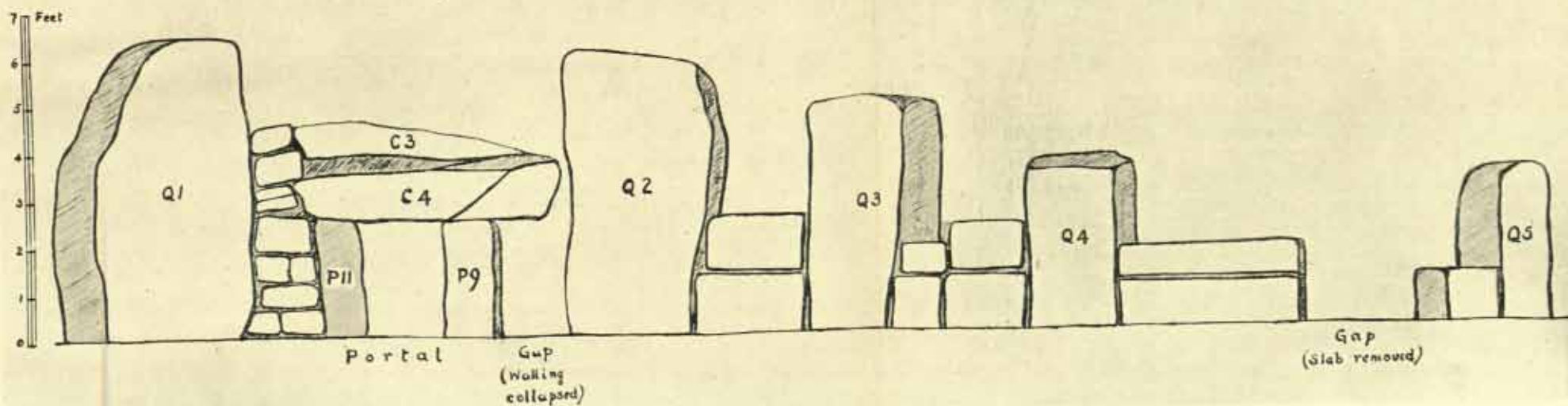
Plan of Chamber, Antechamber,
Vestibule & Forecourt



Section along Line XY

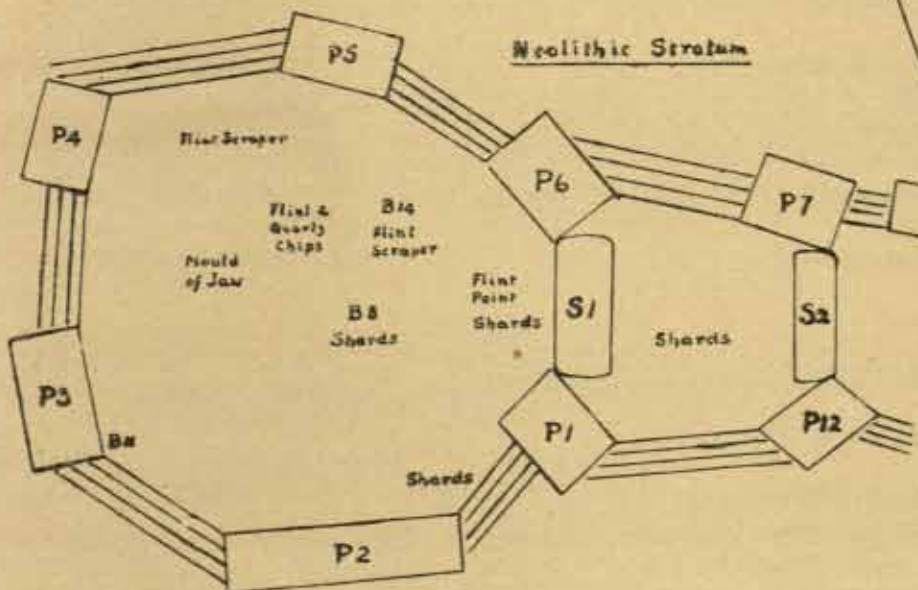
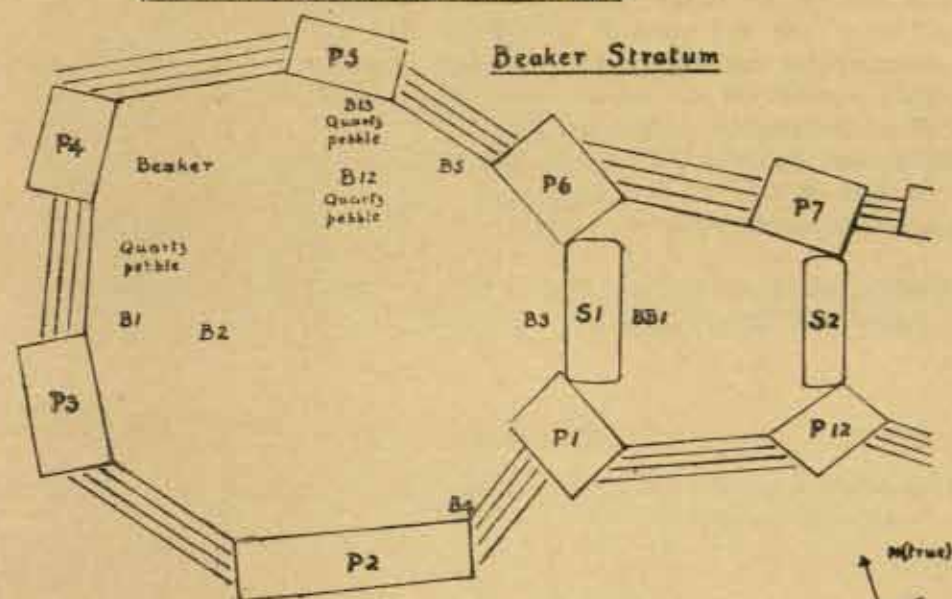


Elevation of Portal and Forecourt Facade (Q1 restored)



Excavation Plans of Chamber & Antechamber

(For details of some deposits, B1, B2, etc see App. I)



10 Feet

of Science and Technology for a chemical report on certain bones; to Dr H. H. Thomas of the Geological Survey for the report on the pumice; to Dr H. O'Neill Hencken of Harvard for information about other finds of pumice in megalithic tombs; to Mr Stuart Piggott for drawings of the neolithic bowls and for other assistance; to Mr W. L. Coats of Glasgow for two photographs of the chamber, one of which is here reproduced; and finally to Professor V. G. Childe and Mr W. J. Hemp for their very valuable assistance on many points arising in the preparation of this paper.

Sir Reginald Macleod of Macleod has approved of the pottery being preserved in the National Museum of Antiquities at Edinburgh.

APPENDIX I.

REPORT ON BONE FRAGMENTS. By M. L. TILDESLEY, Curator of Human Osteological Section, Royal College of Surgeons' Museum.

NEOLITHIC LEVEL.

Site B.8.—Four fragments comprising left half of mandible; no teeth lost pre-mortem, all three molars up and all worn. Middle-aged individual, probably male.

Site B.11.—The bone fragments include a fragment of the upper end of the cannon bone of a young ruminant, probably a calf. Fragment of scapula of a young animal—could be a calf, but fragment too imperfect to determine. Head of humerus of bird, probably a waterfowl. Skull fragments which cannot be identified, but probably not human.

Site 14.—Burnt fragment of the lower end of a cannon bone of sheep or goat.

BEAKER LEVEL.

Site B.2.—Fragments of the skeleton of a young man, including parts of skull, thigh bone, upper arm bone, rib.

Site B.1.—Fragments of human long bones only, the identifiable fragments being from the legs.

Bones from Sites 1 and 2 may belong to the same individual.

Site B.12.—Parts of human leg bones. Also heel bone and fragment of pelvis. Tibia platycnemid; individual adult, probably male.

Site B.13.—Fragments of skull and one fragment each of humerus and radius. The skull was that of a broad-headed individual, aged c. 30-35, probably male.

Site B.5.—Parts of thigh bone and upper arm bone and many small unidentifiable fragments. Femur platymeric.

Bones from sites B. 12, B. 13, and B. 5 may all belong to one individual.

Site B.3.—Skull fragments of young adult individual, together with the enamel crown of four upper molars, viz. 1st, 2nd, and 3rd molar on right, and 3rd molar on left.

Site B.4.—Twenty-one teeth—including all twelve molars—of a young adult aged c. 18–20. Only the enamel crowns remain in many cases, but a root of one 3rd molar remains apparently intact, and still somewhat open, showing that this tooth was not completely up.

Site BB.1.—Some fragments of very much decayed bone with chalky deposit¹ on outside.

APPENDIX II.

REPORT ON PUMICE. By HERBERT H. THOMAS, Sc.D., F.R.S.,
Petrographer to the Geological Survey.

I have examined the sections and specimens of your material from Skye and find that it is definitely a pumice of basaltic character, and all of the same type.

It consists of a brownish glass with abundant vesicular cavities. The glass contains microlites of greenish augite and felspar, and there are occasional small rounded phenocrysts of basic plagioclase. These facts, and the general character of the glass (low refractive index) indicate without question that it is not an artificial slag but a basic volcanic product. As such, its presence is of great interest as it seems to indicate a volcanic eruption of considerable magnitude at or about the period of the site.

As to the source, it is probable that volcanoes were erupting basic material in the Mediterranean, Iceland, and the West Indies, but the character of the pumice is quite different from that of the Mediterranean volcanoes of Stromboli, Vesuvius, and Etna. Of the other seaboard sources Iceland is the less likely, because a southerly drift from

¹ Dr H. L. Riley, A.R.C.S., D.L.C., D.Sc., Lecturer in Chemistry, Imperial College of Science and Technology, reports as follows on this chalky deposit:—

"The white deposit on the bones from Skye contains alumina and phosphoric acid together with small quantities of ferric oxide, silica, water-soluble sulphate, chloride, and organic matter. It is probably a basic aluminium phosphate which has been formed by the slow interaction of the calcium phosphate of the bone with aluminium silicate present in the soil in which the bones were buried. This latter could be present either as clay or as kaolinised felspar from the granite. Fossilised bones have been reported to contain ferric phosphate, which had probably been formed in a similar manner."

Ice-landic waters is contrary to the known direction of currents, whereas a drift from the West Indies would be in accordance with what we know takes place. I therefore incline to the view that the pumice is of West Indian origin, and that your site may be contemporaneous with some great paroxysmal eruption in that region, during which much pumiceous material was ejected into the sea and carried eastwards by the prevailing winds and currents.

MONDAY, 14th March 1932.

THE HON. LORD ST VIGEANS in the Chair.

A Ballot having been taken, the following were elected Fellows:—

ROBERT BLACKWOOD, J.P., 9 Oxford Street, Dundee.

CECIL JERMYN BROWN, M.A., Buccleuch House, Melrose.

WILLIAM M. CROOKS, J.P., Ardmere, Monifieth, Angus.

ROBERT DUNCAN, M.A., 294 Strathmartine Road, Dundee.

ROBERT JAMES LARG, J.P., "The Hollies," 63 Clepington Road, Maryfield, Dundee.

The following Donations to the Museum were intimated and thanks voted to the Donors:—

(1) By JAMES R. DURHAM and PATRICK M. THOMSON.

Fragments of hand-made Pottery, a piece of Pumice, and six fragments of rude Stone Implements, found by the donors in a "burnt mound" at Weisdale Voe, near Heglibister, Tingwall, Shetland.

(2) By JAMES S. RICHARDSON, F.S.A.Scot.

Scraper of white Quartz; rim fragment of a Vessel of Pottery, showing part of a lozenge design, and a Disc of Bone, found by the donor on Quendale Sands, Dunrossness, Shetland.

(3) By Sir GEORGE MACDONALD, K.C.B., F.B.A., LL.D., D.Litt., F.S.A.Scot.

Cast of a triangular Bronze Relief of Jupiter Dolichenus and other subjects from Heddernheim, Germany, now in the Museum at Wiesbaden.

(4) By WILLIAM CROOKS, J.P., Ardmere, Durham Street, Monifieth.
Communion Tokens of Ayr, Cumnock, and Lesmahagow.

(5) By Sir REGINALD MACLEOD of Macleod, K.C.B., F.S.A.Scot.
Fragments of a round-based neolithic Urn of black ware; fragments of a neolithic Urn of brownish ware; a Beaker of light brown ware, and two Scrapers of grey Flint, found by W. Lindsay Scott in a chambered cairn at Rudh' an Dunain, Skye. (See previous paper by W. Lindsay Scott, F.S.A.Scot.)

(6) By A. D. LACAILLE, F.S.A.Scot.
Two rudely chipped blocks of white Flint, from Cissbury, Sussex.

(7) By J. HEWAT CRAW, F.S.A.Scot.
Framed full-sized Photograph of the Boar sculptured on rock in the fort of Dunadd, Argyll.

(8) By J. BOLAM JOHNSON, C.A., F.S.A.Scot.
Old Golf Club.

(9) By WALTER DEARDS, 3 Sylvan Place, Edinburgh.
Three old Golf Clubs, from the Old Golf Tavern, Bruntsfield Links, Edinburgh.

(10) By Lt.-Col. T. L. BROWN, 60 Inverleith Place, Edinburgh.
Four old Golf Clubs.

(11) By T. D. BATHGATE, Gersa Schoolhouse, Watten, Caithness.
Bit of Peat containing Lint or Flax Seeds, from Lynegar, Watten, Caithness.

Five Flint Scrapers, end Scraper of Flint, and Saw of red Flint, found in the neighbourhood of Gersa Schoolhouse, Watten, Caithness.

Large Bone Needle, found at St Mary's Crosskirk, Forss, Caithness, in 1914.

Sickle-shaped object of Bone, found in 1922 in a field at Gersa School, Watten, Caithness.

(12) By WILLIAM BROWN, Mid Yell, Shetland.
Small rounded and pointed object of polished Serpentine, imperfect at both ends, from a kitchen-midden at Yell, Shetland.

(13) By JOHN A. FAIRLIE, Lauriston Castle.

Circular wooden Box with domed lid covered with tooled and gilded morocco leather. On the base are the initials I.B.R. and the date 1626.

(14) By Lieut.-Commander G. E. P. How, F.S.A.Scot.

Rat-tailed Silver Teaspoon, maker's mark D M (David Mitchell), Edinburgh, *circa* 1720.

Silver Teaspoon, maker's mark J M (John Main), Edinburgh, and date letter C, 1732.

Silver Teaspoon with handle of fiddle pattern, maker's mark L O W (Robert Lowe), Edinburgh, *circa* 1745.

(15) By The Right Hon. VISCOUNT TRAPRAIN.

Penannular Brooch of Silver with circular terminals, of oval form, the ring and terminals being of plano-convex section (fig. 1). On the side opposite the break in the ring is a flat curved plate wider than the ring,

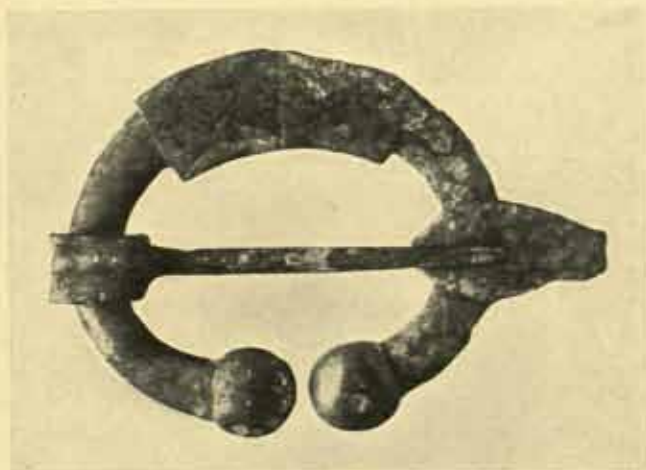


Fig. 1. Silver Brooch from Traprain Law, East Lothian. (1.)

and at one end is a flat, lozenge-shaped plate on which the point of the pin rested; the free hinge of the pin shows three encircling mouldings. The brooch, exclusive of the pin-plate, measures $2\frac{1}{8}$ inches in length and $1\frac{1}{8}$ inch in breadth, the ring being $\frac{1}{4}$ inch in breadth and $\frac{5}{16}$ inch in thickness.

Bronze Capsule or Shaft-butt, measuring $1\frac{1}{4}$ inch in length and

1 $\frac{1}{8}$ inch in diameter (fig. 2). The end is cupped with a conical projection in the centre. The socket is imperfect, but shows the remains of a rivet hole on one side.



Fig. 2. Bronze Capsule or Shaft-butt from Traprain Law. (†)

Part of a Shale Armlet of D-shaped section which has measured 3 $\frac{1}{8}$ inches in external diameter, the ring being 1 $\frac{1}{2}$ inch in breadth and $\frac{9}{16}$ inch in thickness.

Small Ring Brooch of thin Bronze Wire, with the remains of its pin, measuring 1 $\frac{5}{16}$ inch in external diameter.

All found near the Quarry on Traprain Law, East Lothian.

It was announced that the following objects had been purchased for the Museum:—

Fragment of the rim of a large hand-made Vessel of brown Pottery, from Mailand, Uyeasound, Shetland.

Playing-man of Cetacean Bone (fig. 3), of conical shape and surmounted by an acorn-like terminal. On the under side is a hole drilled $\frac{1}{2}$ inch deep. It measures 1 $\frac{1}{2}$ inch in height and $\frac{3}{8}$ inch in diameter near the base; and a Bone Needle, 3 inches long. Found in a kitchen-midden, Sandwick Bay, Shetland.

Two Stone Whorls, the first with a raised moulding round the periphery, both 1 $\frac{1}{16}$ inch in diameter, from Colvadale, Unst, Shetland.

Token Mould of Lead, of Horndean Associate Congregation, 1807.



Fig. 3. Playing-man of Cetacean Bone from Sandwick Bay, Shetland. (†)

The following Donations to the Library were intimated and thanks voted to the Donors:—

- (1) By Sir GEORGE MACDONALD, K.C.B., F.B.A., LL.D., D.Litt., F.S.A.Scot.

Numismatic Notes and Monographs. No. 50.—Notes on the Ancient Coinage of Hispania Citerior. By George F. Hill. New York, 1931.

- (2) By HARRIET, Lady FINDLAY, D.B.E., West Grange, Grange Loan, Edinburgh.

The Religious and Loyal Protestation of John Gauden, Dr. in Divinity, against the present Declared Purposes and Proceedings of the Army and others about the Trying and Destroying our Sovereign Lord the King. London, 1648.

Articles of Peace, Entercourse and Commerce concluded in the names of the most high and mighty Kings, Charles, by the grace of God King of Great Britain, France and Ireland, Defender of the Faith, &c., and Philip the fourth King of Spaine, &c. London, 1630.

Transcendent and Multiplied Rebellion and Treason discovered by the Lawes of the Land. Anno. 1645.

The King's most Gracious Messages for Peace and a Personal Treaty. Printed in the year 1648.

- (3) By JOHN MOWAT, F.S.A.Scot., the Author.

The Place-Names of Canisbay, Caithness, with map. Coventry, 1931.

- (4) By THE INCORPORATION OF BAKERS OF GLASGOW.

The Incorporation of Bakers of Glasgow. Glasgow, 1931. (New Edition.)

- (5) By O. M. DALTON, M.A., F.B.A., Hon. F.S.A.Scot.

Die Elfenbeinskulpturen aus der Romanischen Zeit, XI.-XIII. Jahrhundert. Berlin, 1926.

- (6) By J. H. STEVENSON, M.B.E., K.C., F.S.A.Scot., Marchmont Herald, the Author.

The Bannatyne or Bute Mazer and its Carved Bone Cover.

- (7) By J. STORER CLOUSTON, F.S.A.Scot., the Author.

Tammaskirk in Rendall. Kirkwall, 1931.

- (8) By THE UNIVERSITY OF PENNSYLVANIA.

Henry Charles Lea: A Biography. By Edward Sculley Bradley. Philadelphia, 1931.

- (9) By RICHARD QUICK, F.S.A.Scot., the Compiler.

The Life and Works of Edwin Long, R.A. Bournemouth.

- (10) By W. DOUGLAS SIMPSON, M.A., D.Litt., F.S.A.Scot., the Author.

Three Banffshire Castles. From *Transactions of the Banffshire Field Club*, 1931.

Lochindorb Castle. Elgin, n.d.

(11) By E. S. REID TAIT, F.S.A.Scot., the Author.

John Bruce of Symbister's Map of Shetland. From *The Scottish Geographical Magazine*, vol. xlv., May 1929.

Timothy Pont's Map of Shetland. From *The Scottish Geographical Magazine*, vol. xlvi., July 1930.

(12) By Sir CHARLES OMAN.

The First Forth Bridge, A.D. 209. From *The Numismatic Chronicle*, Fifth Series, 1931.

(13) By CLARANCE F. LEIGHTON, Red Gate, Bexhill-on-Sea, the Author.

Memorials of the Leightons of Ulishaven (Usan), Angus, and other Scottish Families of the Name. A.D. 1260-1931. Privately printed.

(14) By JOHN T. THORP, LL.D., F.S.A.Scot.

Precept of Clare Constat, by George Halybrontoun of Egleiscarnoch for infefting Archibald Lawsoun as heir of Archibald Lawsoun in Overgogar in a quarter of the lands of Overgogar. At Edinburgh, 26th November 1613.

Instrument of Sasine in favour of Robert Hendersone, brother german of John Hendersone of Brigneis, and Marion Langlands, his spouse, of a tenement of land in Borrowstones: on precept in charter by the said John Hendersone. Sasine given on 25th December 1656.

Instrument of Sasine in favour of Robert Puntoun of subjects in the burgh of Queensferrie. Sasine given on 22nd May 1676.

Instrument of Sasine in favour of Robert Lawson, portioner of Overgogar, of a quarter of the lands of Overgogar: on precept in charter by Charles Maitland of Hattoun. Sasine given on 26th July 1687.

The following purchases of Books for the Library were intimated:—

Storia dell' Arte Italiana. IX. La Pittura del Cinquecento. Parte V. A. Venturi. Milano, 1932.

Acta Archaeologica. Vol. ii. Fasc. 3. Copenhagen, 1931.

Tara: a Pagan Sanctuary of Ancient Ireland. By R. A. S. Macalister, Litt.D., LL.D., F.S.A. London, 1931.

A History of Cambuslang, a Clydesdale Parish. By James Alexander Wilson, O.B.E., M.D. Glasgow, 1929.

The following Communications were read:—

I.

NOTES ON THE ROMAN FORTS AT OLD KILPATRICK AND CROY HILL, AND ON A RELIEF OF JUPITER DOLICHENUS. BY SIR GEORGE MACDONALD, K.C.B., F.B.A., LL.D., D.LITT., F.S.A. SCOT.

In the winter of 1930-31, while preparing a new edition of *The Roman Wall in Scotland*, I was impressed with the desirability of doing a little more spade-work with a view to clearing up some points of special difficulty. Accordingly I applied for and obtained the permission of the Carnegie Trustees to utilise for the purpose the unspent balance of a Research Grant which they had been good enough to allocate to me some years ago for a similar object. The immediate problems seemed simple enough. As usually happens, however, they brought others in their train, involving an outlay that exhausted the money available before the end was in sight. When the position was explained to the Council of the Society, they at once agreed to give substantial assistance from the Excavation Fund. A small additional contribution from private sources enabled the enterprise to be brought to a satisfactory conclusion. While a good deal was added to our knowledge of the Wall itself as well as of the Military Way, at various places where their exact course had previously been obscure, it was from the forts at Old Kilpatrick and Croy Hill that the most interesting information came. On both sites the investigations were much more fruitful than I had anticipated, and the results obtained appear to merit detailed description. At the same time it should be understood that the use of the term 'Notes' in the title of this paper is deliberate. In neither case is anything in the nature of an exhaustive 'Report' to be looked for. Rather, the Note on Old Kilpatrick should be regarded as a postscript to the published account of the work done there in 1923-24,¹ while that on Croy Hill may perhaps pave the way for a more thorough-going exploration at some future date.

For leave to open up the ground at Old Kilpatrick I have to thank Major Baird of Lennoxlove, the proprietor, as well as Mr Alexander Mitchell, the grazing tenant, whose patience and good nature seemed inexhaustible. At Croy Hill the amplest facilities were courteously and readily extended to me by Carron Company through their Secretary, Mr C. M. Brown, W.S. Mr A. O. Curle, C.V.O., took an active part in the task of supervision and measurement at both forts, and so in a less

¹ S. N. Miller, *The Roman Fort at Old Kilpatrick* (Glasgow, 1928), cited below as *Old Kilpatrick*.

degree did Mr S. N. Miller at Old Kilpatrick, and Mr D. P. MacLagan and Mr G. P. H. Watson at Croy Hill. But my chief debt under this head is to our Corresponding Member, Mr Samuel Smith, whose constant co-operation was invaluable. Much of the success achieved was due to his sound judgement, his expert knowledge of soils, and above all, perhaps, his determination to rest satisfied with nothing that fell short of absolute proof. Practically the whole of the survey work was carried out as a labour of love by my old friend and helper Mr John Mathieson, F.R.S.E., whose name is a sufficient guarantee of its accuracy. In PLATE IX. his observations have been combined with those embodied in the illustrations to *Old Kilpatrick*, much of the area being no longer accessible. The other drawings used to illustrate the present paper have been made from Mr Mathieson's plans by the skilful hand of Mr C. S. T. Calder, Assistant Architect to the Ancient Monuments Commission, who also surveyed the curious building shown in fig. 12.

During the first stage of the operations at Croy Hill I had the benefit of the experience of Mr John Campbell, who had acted as the Society's foreman at Mumrills. When he was called elsewhere by seasonal engagements, the whole responsibility devolved upon his lieutenant, Mr Alexander Mann, who rose to the occasion splendidly, toiling for several months on end at Croy Hill and Old Kilpatrick, for the most part single-handed, and displaying an intelligent enthusiasm and a power of initiative for which no praise could well be too high.

I. OLD KILPATRICK.

A. *The Relation of the Fort to the Antonine Wall.*

When the exact position of the fort was discovered in 1913, it was assumed that its western defences¹ had been linked up with the Wall in the usual fashion, and in preparing the illustrative map it was taken for granted that the great Rampart, with its accompanying Ditch, had traversed the whole breadth of the field that lay between the London and North-Eastern Railway and the Dumbarton Road.² It was therefore as disconcerting as it was surprising to learn from the Report of the excavations of 1923-24 that "there was a gap between the Ditch of the Antonine Wall and the ditches of the fort," and that this had been "proved by a trench outside the north-west corner which showed unbroken ground."³ What happened to the Wall itself was stated to

¹ The sides of the fort were not strictly orientated to the four points of the compass, the front actually facing a good deal north of west. But the convention adopted by Mr Miller in *Old Kilpatrick* (p. 2, footnote) is convenient, and I propose to follow it throughout.

² *Proceedings*, vol. xlix. (1914-15), PLATE I.

³ *Old Kilpatrick*, p. 6.

be uncertain, although it seemed probable that it "came at least close up to the fort defences."¹ The resulting plan (fig. 1) presented many puzzling features, to account for which a novel and interesting theory

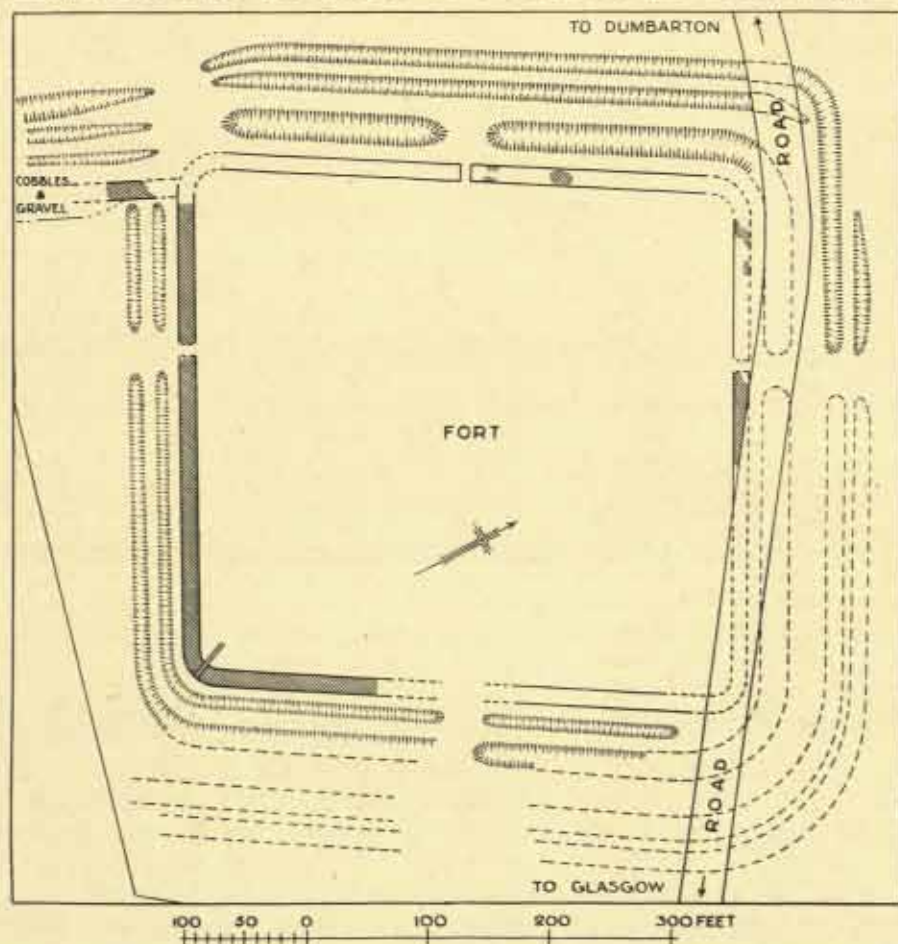


Fig. 1. The defences of the Fort at Old Kilpatrick as reconstructed in the *Report of 1928*.

was put forward. The earliest stage in the Antonine occupation of the site had been, it was suggested, the construction of a great 'harbour-enclosure,' defended on three sides by a double ditch, and having on the fourth side a quay at which were landed stores and material for the troops engaged in building the Wall; the fort was built later, though probably not much later; and the pre-existence of the enclosure explained the apparent anomaly of the gap.

¹ *Old Kilpatrick*, p. 6.

Unfortunately there was no discussion of the fundamental question as to whether the Clyde was navigable at Old Kilpatrick in Roman days. Moreover, despite the ingenuity with which it was developed, the theory had implications which seemed open to serious objections, and knowing something of the difficulties that had beset the excavators I could not help wondering whether the facts had been correctly ascertained. A desire to satisfy myself on this head was the main motive that prompted me to return to the site in 1931. As will be seen from what follows, my doubts proved to be fully justified. But it is only fair to Mr Miller to add that the success which attended the renewed investigations was in large measure due to the comparatively favourable conditions under which they were carried out. Within the decisive area he had been restricted to the digging of "a few trenches,"¹ whereas I was allowed a much freer hand. Had it been otherwise, he and I could hardly have reached such widely different conclusions. In the circumstances there is nothing to be gained by a detailed criticism of his arguments. It will be at once clearer and more convenient to treat the whole matter *de novo* on the basis of my own results.

A day or two's work sufficed to prove that there had been no gap and no enclosure. The Antonine Ditch and the Antonine Rampart were traced right across the field from the railway to the road. The former had, however, shrunk very appreciably in breadth, measuring from lip to lip 25 feet at most, as compared with the normal 40 feet, a change the possible significance of which will be apparent later. The Rampart, on the other hand, seemed to have been of the usual width, and as the stone foundation had been preserved intact for a consecutive stretch of 85 feet there was no difficulty in determining its direction. In a word, the evidence that both Ditch and Rampart had made contact with the defences of the fort was overwhelming, and it was equally plain that in doing so they must have cut right across the line of the supposed enclosure.² Thus far all had been plain sailing. To discover the precise manner in which the junction had been effected was a more troublesome task, requiring the turning over of much soil and a great deal of close observation. That there had been something abnormal about it was obvious from Mr Miller's plan (fig. 1), which showed that the adjacent corner of the fort rampart had been rounded, not square as it usually is in the circumstances. It became still more obvious when the spade revealed a ditch of very peculiar shape running along a line where we had confidently expected to find solid ground.

¹ *Old Kilpatrick*, p. vi.

² From what Mr Miller tells me it seems clear that the failure to find them in 1924 was due to the exploratory trench not having been carried far enough east.

As ill-luck would have it, the very area where we would have most wished to dig was effectually sealed by the modern thoroughfare known as the Dumbarton Road. The position in this respect was bad enough in 1923-24, and since then it had been aggravated by the addition of 10 feet to the width of the highway on the south. Had

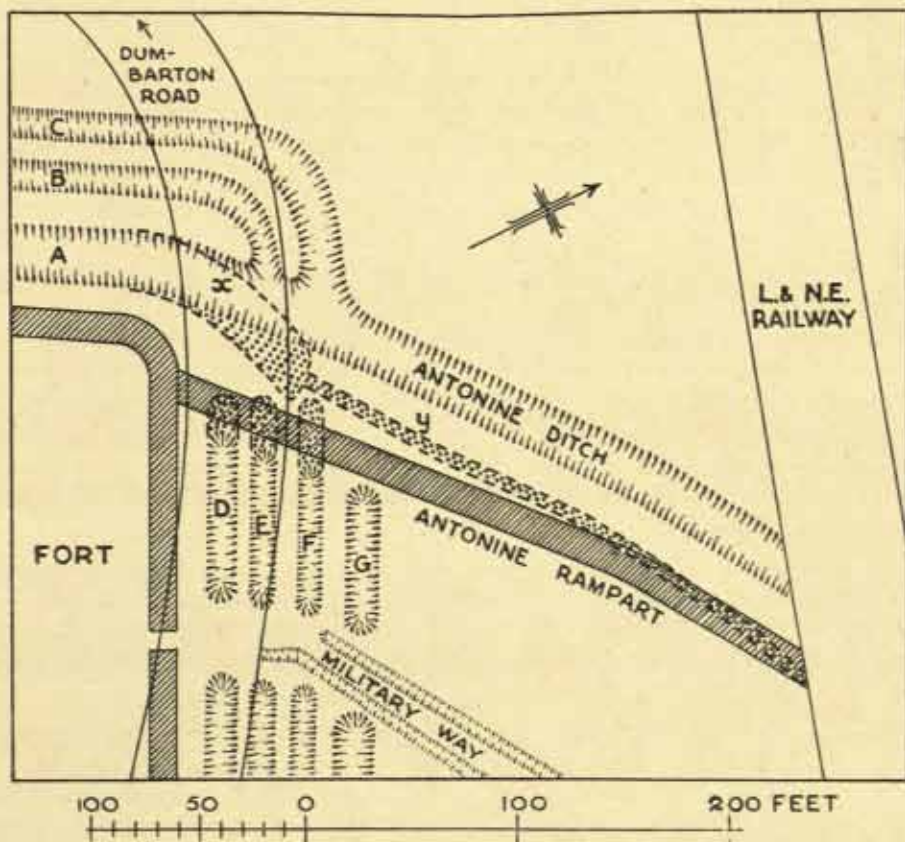


Fig. 2. The north-west corner of the Fort at Old Kilpatrick as uncovered in 1931.

the north side been preferred for the extension, our quest would have been hopeless. The accompanying sketch (fig. 2), which is based upon Mr Mathieson's plan, sets out the data which we were able to make available for a solution of the problem, and at the same time indicates how narrow an escape from oblivion the clue to the labyrinth had when the highway was originally constructed. So far as the ground beneath the road is concerned, the sketch is necessarily conjectural. Subject to that *caveat*, it may be taken as representing the ditches that were actually dug by the Romans. It must not, however, be

supposed that these all belong to one and the same scheme or that all of them were open simultaneously. As a matter of fact it can be shown that two of those which are marked by broken lines (x and y) were abandoned while still in course of construction, and that the various portions which are stippled (including the whole of y) had been filled in before the Antonine Rampart was built.

I will begin with y . Issuing from the end of the rather deeper and much broader x , which projected a few feet beyond the hedge bounding the road on the north, it had been carried at least as far as the railway embankment and doubtless somewhat farther. It had an average width of 7 feet and an average depth of 5 feet. It was not, however, homogeneous. While it became V-shaped as it approached the railway, its sides were vertical for the greater part of the distance. But vertical sides would have no stability and could not possibly have been designed for permanence. The inference that it had been left unfinished was irresistible. The proof of deliberate filling-in in Roman times was no less convincing. It will be seen from fig. 2 that, for the last 40 yards of its course, its line lay wholly or partially beneath that of the Antonine Rampart. Wherever the two coincided, the clean sand, which generally formed the contents of the ditch, had been stiffened by a liberal admixture of boulders, obviously inserted to support the stone foundation which was to be laid above.

From y we can argue to x , with which it was organically connected. The two, indeed, can best be regarded as designed to form a single whole, which I will call $x+y$. Taken together, they furnish an instructive example of a large ditch in process of being excavated. The *modus operandi* was simple and practical. Apparently the line that had been pegged out was divided into a series of lengths and the workmen into gangs. The leading gang cut a V-shaped ditch—in this case 7 feet wide and 5 feet deep—in the first length, and then moved on to deal similarly with the next. They were succeeded by a second gang, who made the sides vertical and the bottom flat, thus providing standing-room for a third, who carried matters a stage further and who would be followed by as many (if any) more as might be required to secure the width and depth that were ultimately aimed at. It is hardly necessary to point out that even the first gang would begin by cutting a vertically-sided trench which they would widen and deepen into the V-shaped ditch on which the gang who came after them were to operate.¹ But it is important to note that the V-shaped section of y was at the side of the field which was farthest away from the river, and that there

¹ In all probability they would leave a flat strip at the bottom both for their own convenience and for the convenience of their successors.

was therefore no room for doubt as to the direction in which work was proceeding at the moment of abandonment. The diggers had started from the fort.

When *y* was brought to a standstill, it was obviously to A, or rather to the prolongation of it which merged into the Antonine Ditch, that the energies of the workmen were transferred. As the stippled portion of *x* lies clear of the line of the Antonine Rampart, there was no direct evidence of its having been deliberately filled in. Nevertheless it is impossible to believe that its blunt and irregularly-shaped end would have been left hanging, as it were, in the air. Moreover, if the full breadth of *x* and the prolongation of A had remained open, the presence of such an extensive hollow in the immediate neighbourhood of the rampart might well have proved an embarrassment rather than an aid to the defenders. It is thus more than likely that, when the plan for *x+y* was given up, *x* received the same treatment as was accorded to *y*, the only part of it to be spared being that which could be turned to profitable account in the prolongation of A.

The remaining ditches that go to form the complex included in fig. 2 can be dealt with more briefly. The outermost of the four on the north (G) is clearly later than its companions, the cutting of which must have preceded the building of the Antonine Rampart. Personally I believe it to be much later, and I further believe (for reasons that will be explained in the sequel) that B and C on the west front were contemporary with it. I therefore propose to leave these three out of the picture in the meantime. A glance at fig. 2 will reveal the story of the others. D, E, and F had all been completed, and their eastern and central parts continued to fill a place in the defensive system of the fort until the close of the occupation. Their western ends, however, had been deliberately filled in, exactly in the same manner and apparently at the same time as *y* had been. That this was what had happened was conclusively demonstrated by our examination of F, the only one of them which was still accessible. Although the Antonine Rampart itself had vanished, the clean sand with which the hollow was packed had been stiffened with large boulders just where the track of the stone foundation must have crossed it.

Precisely how far east the filling of these ditches had extended it is impossible to say with certainty. Working in the dark, as we were, we did not look for any dividing line, and, even if we had realised the desirability of doing so, it is extremely improbable that we should have found it, as the earth had been already turned over during the operations of 1924. Accordingly it is to be understood that the eastern limit of the stippling in D, E, and F is conjectural. But the margin

of possible error is negligible, for we may safely take G as an index and assume that, when it was dug, its length was determined by the already reduced length of the three ditches which lay between it and the rampart of the fort. No similar reservation is necessary with regard to the western limit of the stippled area, since the original termination of F was quite definitely located by the spade. Reference to fig. 2 will, however, show that this opens the way to a very important deduction.

It will be observed that F, which was completed, encroaches upon ground which would have been absorbed by $x+y$, if the latter had ever been finished. This can only mean that it was dug before $x+y$ was contemplated. It is inconceivable that it should have been dug after $x+y$ was abandoned, seeing that its western end and y were both filled in at the same time and for the same reason—because they barred the passage of the Antonine Rampart. This again implies that F and y belong to two different schemes, that of which F formed part being the earlier; and, further, that these two schemes were ultimately superseded by a third, which is represented by the Antonine Rampart and Ditch. At first sight we seem to be confronted by a confused and confusing medley; but, if a firm hold be kept of the key which our analysis of the evidence has forged, it will be found that the puzzle will practically solve itself, and that the result will be to throw some new and unexpected light on the story of the Wall. The point to be stressed is that the ditches which appear in fig. 2 fall into four distinct groups, each of which is associated with a different scheme. I have already indicated that the latest group, consisting of B, C, and G, can more appropriately be discussed at a subsequent stage. The others I will deal with now.

To understand the sequence of events, we must remember that, while the great barrier with its supporting *castella* constituted a single whole, the unity which it embodied was a unity of conception rather than a unity of execution. The forts were in all probability erected by the auxiliary regiments, each by the body of men which was afterwards to be stationed in it as a garrison. The Antonine Rampart, on the other hand, as we know from the inscriptions, and presumably also the Antonine Ditch and the Military Way, were constructed by detachments drawn from the legions. Nor is it irrelevant to add that in carrying out their task the legionaries appear to have advanced from the Forth to the Clyde, not from the Clyde to the Forth. This view as to the direction which they followed was originally an inference based on the epigraphic record;¹ but it will, I think, be found to be

¹ See *Journal of Roman Studies*, xi. pp. 1 ff.

abundantly confirmed by the structural evidence which Old Kilpatrick has provided. In any event, the two sets of workmen would be bound to come into contact with one another at the forts, of which there were nineteen, and there must have been some sort of regulation governing the *liaison* that was to be maintained between them there. Apparently, however, it did not go beyond a general instruction to the effect that, to such an extent as might be possible, the Antonine Rampart and the Antonine Ditch were to be utilised as the defences of the main front of the *castella*. So far as our information goes, the only fort at which this rule was disregarded was Bar Hill.

It would be easy enough to give effect to the idea where the stone foundation of the Rampart was laid, and the Ditch dug, before the defences of the fort were completed, as there is good reason to believe was the case at Rough Castle and Croy Hill. On the other hand, difficulties would be almost bound to arise where the fort-builders had finished the 'lay-out' before the legionaries arrived upon the scene. That, I feel sure, must be the explanation of two anomalies which cannot fail to strike anyone who studies the plan of Balmuilty (fig. 3)—the abnormal narrowness of the Ditch where it passes in front of the fort, and the curious wing-like ends that project from the northern corners of the Rampart. This section of the Ditch was quite clearly the work of the fort-builders, for its breadth corresponds to the breadth of the other ditches which they dug. As for the Rampart, the fact that it was of stone made a difference inevitable. But, while the squaring of the corners shows that a junction with the Antonine Rampart was contemplated, the projections that were thrown out to meet it prove that it was not yet in sight. The projection on the east was useless: witness the way in which the legionaries tucked the stone foundation in behind it. That on the west was worse: it was laid on a line which betrays entire ignorance of any intention to carry the Antonine Rampart across the Kelvin.

At Old Kilpatrick, too, the legionaries were outstripped by the fort-builders. Hence the comparative narrowness of the ditch which I have called A (fig. 2), originally the only ditch on the main front of the fort. Hence also the rounding of all four corners of the rampart, as if the *castellum* were to be an isolated unit. It would be a mistake to interpret the latter feature as implying that the Antonine Rampart was not expected; it merely implies that it was not yet there. Had the fort rampart been of stone, as at Balmuilty, the two outer corners would undoubtedly have been squared; but it was of turf, and square corners in that material could not have been trusted to stand secure, so long as they lacked support. In point of fact, convincing proof that the

Antonine Rampart *was* expected, although not along the route by which it eventually arrived, is furnished by D, E, and F. In their original form these ditches belong, like A, to the earliest of the four

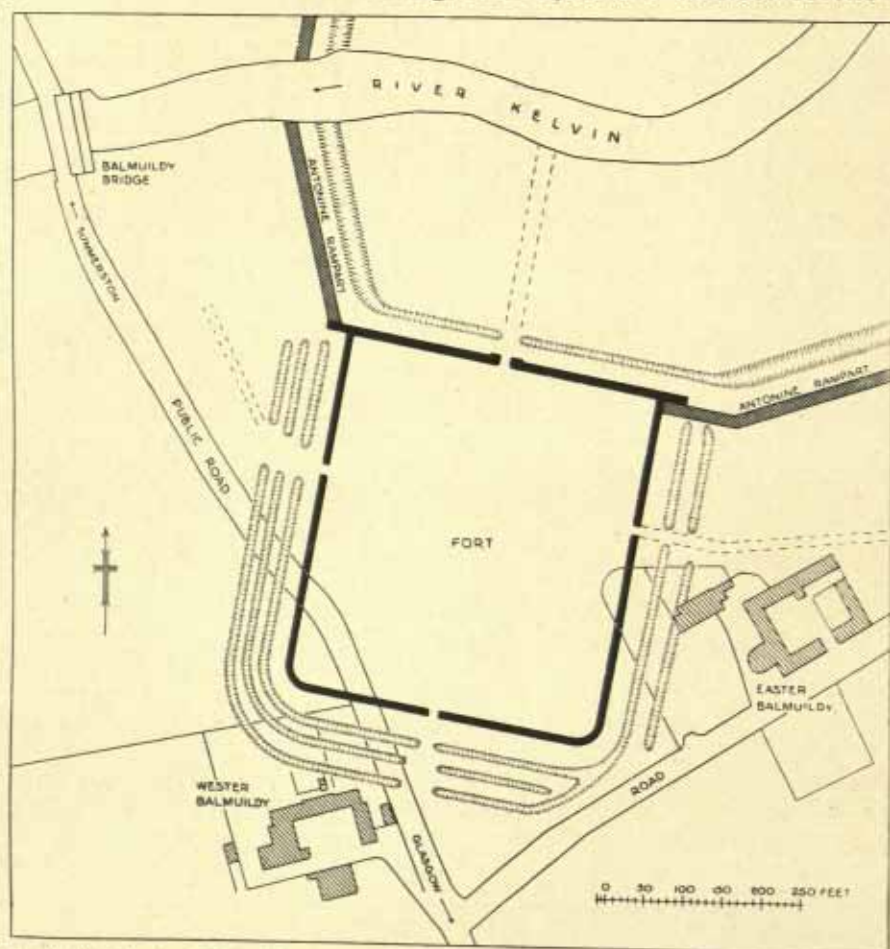


Fig. 3. The Fort at Balmuildy, showing its relation to the Antonine Rampart and Ditch.

schemes of which I have spoken, and the application of a pair of compasses to fig. 2 will show that ample room was left for the passage of a 14-foot rampart between their western ends and what would have been the inner margin of a ditch running in strict alinement with the ditch in front of the fort. Fig. 2, of course, represents the north-west corner, but the arrangement at the south-west corner was similar. Fig. 4 shows the main front of the *castellum* as I believe it to have been laid out in accordance with what I will call Scheme No. 1.

But Scheme No. 1 was not destined to come to fruition. The legionaries tarried or were unavoidably delayed, and someone in authority grew impatient. Consequently the fort-builders were called on to do more than their proper share. Either "*causa disciplinae*"¹ or because he had been told that the work was urgent and must be pushed on as rapidly as possible, their commandant arranged that they should set out to meet the Wall-builders, who were approaching from Duntocher. The outcome was not altogether happy. Scheme No. 1 had to be modified at once. The orientation of the *castellum* had not unnaturally been determined by the line of the river rather than by the line of the

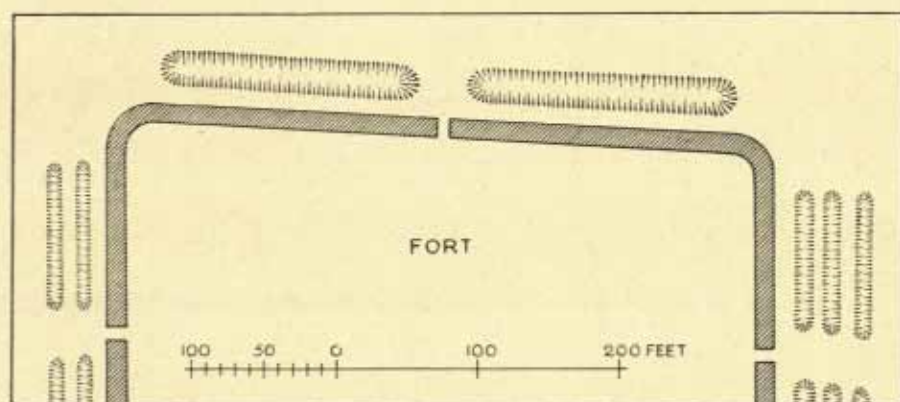


Fig. 4. The west front of the Fort at Old Kilpatrick as originally laid out.

Wall, which was not yet in existence. Accordingly, when the prolongation of the ditch in front came to be faced as a practical proposition, it was seen that its direction was unsuitable. If A had been carried straight on, the diggers would speedily have found themselves on the slopes of the Kilpatrick Hills, and would never have met their comrades at all. Plainly a decided trend towards the right was required.

Fig. 2 shows that the realisation of the need for a change brought with it too violent a reaction. In Scheme No. 2 the prolongation of A was to sweep round on a curve (*x*) almost as pronounced as that which had been given to the rampart, and was then to swing north-eastwards (*y*) more or less straight across the field. The first effect of this would have been to wipe out the western end of F. That was a comparatively small matter, and must have been reckoned with when the plan was evolved. But there would have been a far more awkward sequel. The Antonine Rampart would have abutted upon the rampart

¹ Hyginus, *De Mun. Castr.*, c. 49; cf. Tac., *Ann.* xi. 20 ("ut miles otium exueret").

of the fort, not in the neighbourhood of the corner, but about midway between the corner and the north gate, an arrangement so unsatisfactory that it almost looks as if for the moment the impending advent of the Antonine Rampart had been entirely forgotten. Whether that be so or not, it is beyond doubt that the fort-builders were responsible for the blunder. I have already pointed out that the evidence provided by the change in the shape of the sides of y is conclusive as to the direction in which the digging was being done.

Not much time can have been wasted on Scheme No. 2, for the amount of labour that has been expended on $x+y$ hardly exceeds what could have been accomplished in a day or two by such a number of men as could readily have been requisitioned. Nevertheless, if it were urgency that led to the aid of the fort-builders being enlisted, it is easy to imagine the explosive indignation of the 'brass hat' who discovered the mistake that rendered the scheme abortive. In Scheme No. 3, which represents the next stage, the temptation of making the shape of the fort ditch conform to that of the fort rampart was successfully resisted, A being prolonged on a curve at once slighter and shorter than had been designed for x . Except in so far as it could be adapted to the altered plan, the latter was now filled in, as were the western portions of D, E, and F, as well as the whole of y . This allowed the Antonine Rampart to be brought up to the rampart of the fort along the line indicated in fig. 2. That was in all probability done by the legionaries. The prolongation of A to the railway embankment and beyond we may suppose to have been the work of the garrison, who had the bungle of $x+y$ to atone for. And herein, I think, lies the explanation of the abnormal narrowness of the section of the Antonine Ditch between the road and the railway. The men who dug it took their cue from the breadth of the fort ditch, which was their starting-point. That the suggestion is no fanciful one is clear from what happened in the case of the Military Way, about which also we obtained some interesting information.

B. The Military Way.

Several cross-cuts made opposite the north gate revealed the existence of two small trenches, ranging from 7 to $5\frac{1}{2}$ feet in breadth and sometimes as much as $2\frac{1}{2}$ feet deep. As they were running parallel to one another at a distance of 10 or 12 feet, it was conjectured that they must have been the gutters flanking the Roman road, and the correctness of the surmise was established when, on following them outwards, we encountered the remains of heavy

cobbling between them. By this time they had swung very decidedly to the right (PLATE IX.) and were heading for the railway bridge at the north-east corner of the field, thus proving that, in the journey which all three had to make from Duntocher, the Military Way had forsaken the high ground a good deal sooner than the Antonine Ditch and Rampart had done. It will be observed from the plan that the more easterly of the two gutters emerged from beneath the Dumbarton Road. It seems not unlikely that it had run all the way from the gate, where it may have been connected with a gutter within the fort. Its companion, on the other hand, started opposite the end, not of the outermost, but of the third of the four ditches by which the north front was defended—a small peculiarity perhaps, but one which we may by and by see reason to regard as significant.

Two other features call for remark. In the first place, the trenches were unexpectedly wide: so far as I have noted, the provision for the gutters is nothing like so generous anywhere else on the line. In the second place, the room allowed for the road was exceptionally small: the Military Way is usually from 16 to 18 feet wide. That the second of these features was primarily due to the proximity of the fort will be obvious when it is pointed out that the gate-posts at the entrance were only 10 feet apart. At first sight it is harder to understand why the narrow gauge should have been persisted in long after there was abundant room for expansion. But the lesson taught by the north-west corner makes the solution easy. Here again the fort-builders have been sent forward to meet the legionaries, and here again they have taken their cue from the conditions that prevailed at their starting-point. Striking confirmation was supplied by the cobbling. Fragmentary as it was, we found that it had extended well beyond the inner margin of the more northerly of the two gutters, so as partially to cover the trench. It is clear that as they approached from the north-east the legionaries, who were the real roadmakers, had disregarded the limits that had been marked out for them by their less skilled fellow-soldiers, and had given the Military Way a breadth approximating more closely to the normal. It is a curious example of imperfect co-ordination such as one would hardly have looked for in a well-regulated army. Lack of experience, then, accounts for the unusually small space that was left between the gutter-trenches, and it may be to the same cause that their unusually large size should be attributed.

Although a certain amount of anticipation will be involved, it is desirable to add a word or two as to the course taken by the Military Way after it disappeared beneath the Dumbarton Road. That it entered the north gate is certain, and it is no less certain that it

traversed the fort as the *via principalis*, passing in front of the Headquarters Building (PLATE IX.). Issuing from the south gate, it led into an annexe which lay between the fort and the river, for that there was an annexe here may confidently be inferred from what we know of the position of the suite of Baths discovered during the construction of the Canal in 1790. Whether the road ran direct to the Baths, or whether it merely sent off a branch in their direction, it is perhaps impossible to say with certainty.¹ In any event, however, there can be little or no doubt that it presently reappears in a most unexpected place, and that at one period in its history, seemingly when it was originally constructed, it had continued beyond the fort for some distance down the river. To those unfamiliar with the Roman frontier-system it may appear strange that the Military Way should have been carried out into the country beyond the official boundary. It was, however, quite in accord with ordinary practice. Thus, it is well known that between Falkirk and Rough Castle there was a gate in the Antonine Rampart, giving egress to a road leading to Camelon and beyond. Similarly, roads ran northwards from Hadrian's Wall to outposts like Risingham and High Rochester on the east, Bewcastle and Netherby on the west. Postponing in the meantime any question as to the object of the continuation at Old Kilpatrick, or as to the reason why it had been abandoned, let us see what is the evidence for its existence.

Readers of *Old Kilpatrick* will remember that, when Mr Miller examined the surviving portion of the extension of the Antonine Rampart, which stretched from the south-west corner of the *castellum* towards the Clyde, he made the surprising discovery that beneath it were the remains of a cobbled road. That this road had run from east to west, and not from north to south, was clear from the fact that it was found again in the opening between the western ditches (fig. 1). That it had been intended to carry heavy traffic is proved by Mr Miller's description. He says that within the gap which separated the ditches the compacted gravel "was beaten so hard that, when the pick was used upon it, it came away in lumps, like a concrete."² No ordinary street would have been given a surface so solid. Recognising this, Mr Miller proposed to explain it as a special feature of the 'harbour-enclosure,'—the thoroughfare along which stores and material, unloaded at the quay, would be transported beyond the defences for distribution to the workers inland. But the spade has taught us that

¹ The direction followed by the line of cobbles and gravel outside the south-west corner of the fort (PLATE IX.) favours the former alternative.

² *Old Kilpatrick*, p. 7, footnote 3.

there was no enclosure, and we shall presently learn from the history of the river that there cannot have been a harbour. We have perforce to seek for some other interpretation, and I can think of no satisfactory hypothesis except the one I have suggested.

C. The Ditches of the Fort.

Even before our examination of the north-west corner (fig. 2) had been completed we realised that the new facts, which were coming to light there, would necessitate a drastic amendment of the view of the ditch-system which is set forth in fig. 1. So far as concerned the south front, and also so far as concerned that part of the west front which lies to the south of the Dumbarton Road, there was no difficulty in accepting Mr Miller's statement of the evidence, for in these areas he had had elbow-room to ply the spade.¹ Elsewhere it was different. On the east front he dug only to the south of the Dumbarton Road, where he was grievously hampered by building operations and where his plan consequently involves a very substantial element of conjecture. Here we were in even worse case, for everything is now smothered beneath houses, gardens, and roads. But the superior advantage which we enjoyed along the whole of the north front extended to the north-east corner of the fort, and there we were able to obtain some valuable information, thanks to the latitude kindly allowed us by the proprietors of the large garage which has been erected at the east end of Mr Mitchell's field and by the tenant of the poultry farm beyond. Fig. 5 depicts what I believe was the final phase of the fort's defences. It will be seen that on all sides except the south the contrast with fig. 1 is striking.

So far as the main or west front is concerned, it will be sufficient to refer to fig. 2, which covers the only portion where the difference between the two plans is vital. Indeed, in view of the length at which that illustration has already been discussed, there is nothing more to be said about the north-west corner as a whole. As regards the remainder of the north front, however, it is desirable to state explicitly

¹ It is worth mentioning that in the latter of the two areas we dug several trenches in order to determine the exact point at which each of the ditches vanished beneath the widened roadway, and that our results tallied fairly closely with those embodied in Mr Miller's plan. The amount of adjustment required to bring about complete accord was hardly greater than was to be expected in the case of two surveys carried out in different circumstances and by different hands. I suspect, however, that his surveyor may have been misled by appearances when he gave the ends of the three ditches south of the opening the irregular and attenuated shape which they wear in fig. 1, and which is quite unlike ordinary Roman work. Unfortunately I omitted to put the matter to the test in 1931. Nevertheless in my own plan I have ventured to represent them in more conventional form, largely because digging compelled us to make a correction of the kind in the closely analogous case of the outermost ditch at the north-west corner (G in fig. 2).

that all the four ditches shown in fig. 5 were actually found. The innermost lies almost entirely beneath the Dumbarton Road and the approaches to the garage (PLATE IX.), but we had the luck to hit upon it in the very first cut which we made within the restricted space where excavation was still practicable. The one next to it is buried under the

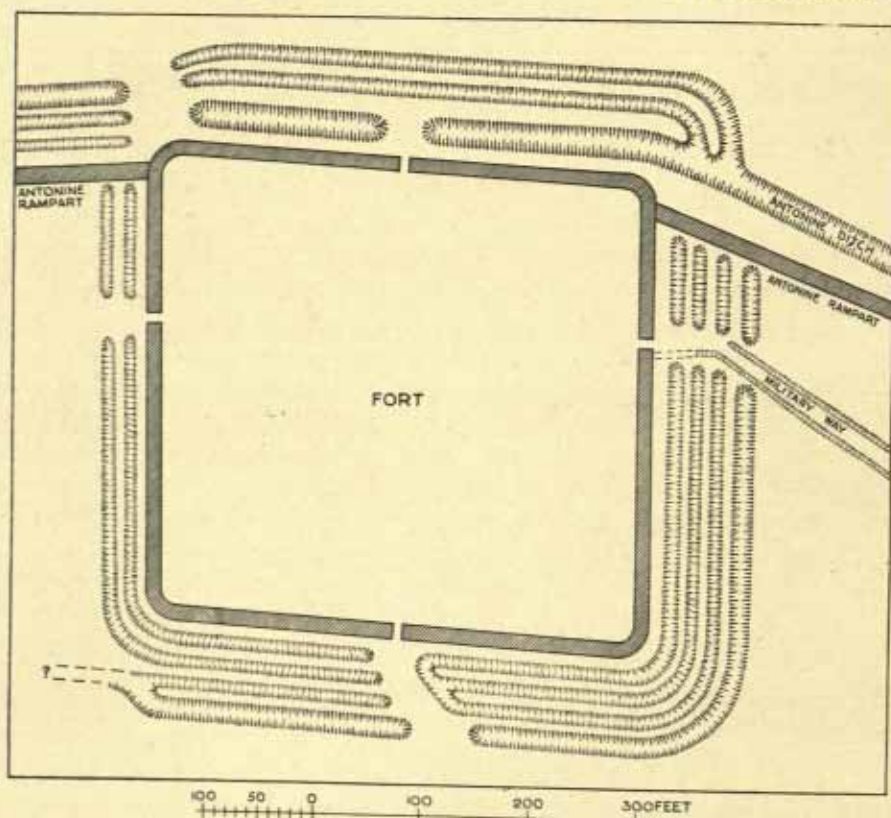


Fig. 5. The defences of the Fort at Old Kilpatrick in their final form.

road from its western end as far as the fort gate. Beyond that we were able to trace it right through the field until it entered a forbidden area within the garage enclosure. The two outer ditches were followed all the way to the garage from the north-west corner (fig. 2). The garage had been built astride of them, but on the farther side of it we succeeded in exposing the rounded corners of both, just as they were starting on their southward journey. It thus became possible to utilise their evidence for the conjectural restoration of the eastern part of the ditch-system, and for that they provided a much more satisfactory

basis than was at Mr Miller's disposal. He had nothing to guide him but the 'harbour-enclosure' theory, which was positively misleading, whereas we knew the number of ditches that had turned the north-east corner, as well as the dimensions and either the exact or the approximate position of each of them.

If fig. 1 be looked at carefully it will be apparent that the only ditch on the east front about which anything approaching complete information was forthcoming in 1923 was that which is nearest to the rampart, and it is significant that its line coincides generally with the line that has been assigned to the corresponding ditch in fig. 5. It is true that it is represented as coming to an abrupt end before reaching the north-east corner; but in this respect I cannot accept fig. 1 as final.¹ That the innermost ditch of a fort should behave in the fashion suggested is in itself improbable, and the fact that both in size and in distance from the rampart it agrees with the innermost ditch which we found on the north makes a breach in the continuity of the two in the highest degree unlikely. It may, I think, be taken as certain that, just as at the south-east, so also at the north-east the ditch passed round the corner. A more difficult question is raised by the second of the ditches that appear in fig. 1. Its abnormal breadth of 24 feet forbids its identification with any of the four ditches which we found to the north of the Dumbarton Road, and, moreover, even on the showing of fig. 1 itself, it necessitates a sudden and inexplicable narrowing when the south-east corner is approached. Yet an actual breadth of 24 feet is vouched for by a section.² Is there any means of escape from the *impasse*? I think there may be.

If the text of the Report be referred to, it will be seen that the whole length of this ditch has been laid down on the evidence of a single cross-section, cut from the rampart outwards about 40 feet north of the gate. To determine the breadth and course of a ditch by a single cross-section is always a hazardous proceeding, but in this case it was probably unavoidable, as Mr Miller was working, almost literally, in the builder's yard. The tentative reconstruction embodied in fig. 5 provides a simple and natural explanation of the apparent contradiction between the results of 1923 and those of 1931. On issuing from the gate the road would incline towards the north, as its immediate objective would be the establishment of a connection with the Military Way. The ends of the second and third ditches on the left-hand side

¹ In reply to an enquiry Mr Miller wrote: "Alongside the high road on the north, any trench outwards from the east rampart towards the ditches had to be a short trench, hurriedly cut, and filled in at once, without any possibility of its being re-opened." In the light of the evidence from the north-east corner, he now agrees that the ditch must have been continuous.

² *Old Kilpatrick*, p. 4, fig. 2, section C-D.

would consequently be pushed back, exactly as was proved to have been the case with the ditches on the right-hand side of the Military Way itself when it leaves the north gate (PLATE IX.). If we assume that they were looped, after the manner indicated in fig. 5, and assume further that Mr Miller's cut started at a point which would carry him first across the innermost ditch and then across the part of the loop joining the two ditches beyond, we get precisely such a section as is reproduced in his illustration. Nor would looping of the kind be in any way unusual. We find it, for instance, on both sides of the east gate at Mumrills, on the north side of the west gate at Rough Castle and Croy Hill, and on the south side of both east and west gates at Castlecary. The parallel from the east gate at Castlecary is indeed extraordinarily close.¹

The suggestion just advanced is, of course, a hypothesis only. Furthermore, it must in the nature of things remain unverified, this part of the site being buried beyond recall. I ought, however, to say definitely that, while its adoption offers an easy way of reconciling Mr Miller's observations with my own, its rejection would leave unaffected my conviction that the four ditches which passed along the north of the fort passed also along the east. On that head the evidence from the neighbourhood of the garage and from the poultry farm appeared to be conclusive. As to the rest of the east front, there was nothing to indicate that there had been loops on the south of the gateway, and it may be pointed out that, where looping does occur, it is as a rule on one side of a road only. Hence the manner in which the ditches have been treated in fig. 5. As to the further course of the two inner ones, there is no room for difference of opinion. Mr Miller ascertained that, on reaching the corner, they wheeled westwards and ran along the south front of the *castellum* to within a short distance of the extension of the Antonine Rampart. He also ascertained that there were no other ditches on that side. The ultimate fate of the two outer ones is thus problematical. But, unless the third of the group of four united with the second, just as the corner was turned, it may very well have been carried straight on to the river, serving *en route* as the eastern defence of the annexe. In that event I am disposed to think that the fourth joined up with it before it quitted the precincts of the fort. This brings us to a point at which it becomes desirable to collate the various pieces of evidence suggestive of changes in the ditch-system as a whole.²

¹ *Proceedings*, vol. xxxvii. (1902-3), PLATE I.

² Perhaps I ought to explain why I have omitted from the body of the Note any reference to the hollow which Mr Miller was inclined to regard as the remnant of an Agricolan ditch. While I am at one with him in postulating a Flavian occupation of the site, I find it hard to believe that

On the north front the situation is plain. The three inner ditches were cut first, and the fourth or outermost is a later addition. Ample proof of this is furnished by fig. 2, which shows that the fourth takes full account of the presence of the Antonine Rampart, while the others ignore it completely. Confirmation comes from the gateway. Had all four ditches been there when the construction of the Military Way was begun, the more westerly of the two gutter-trenches would have started from the end of the fourth, instead of from the end of the third as it actually does (figs. 5 and 6); and what is true of the north front must also be true of the east, since the ditches on the two sides were continuous. In other words, the outermost of the eastern ditches is later than the three inner ones; that is why it has been excluded from the looping arrangement in fig. 5. On the west the position is different. None of the ditches there has any connection with the ditches on the adjacent sides, and they have therefore to be looked at independently. It is fairly obvious that they fall into two groups, the first consisting of an inner ditch, which is broad and has an opening opposite the fort gateway, and the second consisting of two outer and narrower ditches, neither of which is interrupted by any break whatsoever. The difference to which attention has been drawn is important as indicating that the two groups are not contemporaneous. But, if they do not belong to the same period, the first is unquestionably the earlier. Our examination of fig. 2 showed that it was there from the outset.

Leaving the additions out of account for the moment, let us glance at the ditch-system as it was in its original form. Fig. 6 represents the defences of the fort after the initial bungling at the north-west corner had been remedied, the superfluous ditches or parts of ditches filled in, and a proper relationship established with the Antonine Rampart and Ditch. It will be observed that there is a single ditch in front, as is invariably the case with the other *castella* which abut on the Antonine Rampart, three ditches on the north and east, and two ditches on the south. Comparison with fig. 5 is instructive. In the final phase two ditches have been added on the west front, one on the north and one on the east, only the south front being left as it was. That the various additions were made simultaneously seems certain, especially if we connect this strengthening of the defences with another change which has already been noticed—the barring of the passage

a hollow of the shape shown in his section (*Old Kilpatrick*, p. 4, fig. 2, E-F) could have been part of the ditch of a fort. His interpretation of the 'stratified structure' as a rampart seems scarcely more convincing. Moreover, if his tentative reconstruction (*op.cit.*, pp. 13 f.) were sound, it would bring the Agricola ditch, if not also the Agricola rampart, well within the limits of the field on the north of the Dumbarton Road. Yet in all our trenching there we encountered nothing remotely resembling either.

for the Military Way outside the south-west corner. The taking of such elaborate precautions admits of but one interpretation. Danger threatened from the west.

A word or two may be added as to the manner in which the exit for the road was blocked. It is not easy to be quite confident about it in the absence of definite knowledge as to the original opening.

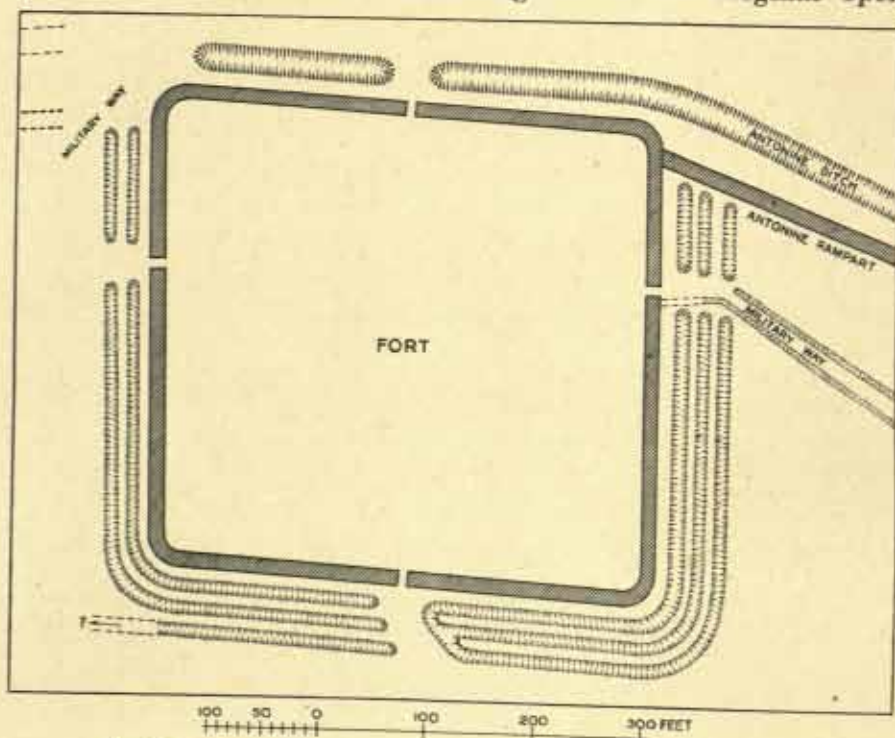


Fig. 6. The defences of the Fort at Old Kilpatrick as first completed.

But the analogy presented by the eastern termination of Hadrian's Wall at Wallsend¹ suggests that the Antonine Rampart was continued from the southern edge of the Military Way as far as the river. If so, it may be taken for granted that, as elsewhere, there was a single ditch in front of it, the two together serving as the western defence of the annexe. To judge from its width, this ditch was probably the outermost of the three whose ends appear in fig. 1, the two narrower ones being added when the defences of the fort were strengthened. The end of the innermost must certainly represent an addition, since it was actually cut into the road, the cobbles and gravel of which showed on its outer as

¹ *Northumberland County History*, xiii, pp. 490 ff.

well as on its inner margin.¹ But why, it may be asked, were the ditches not carried right across the road, like the extension of the Antonine Rampart? The obvious reply is that for offensive-defensive purposes it was necessary that the area in front of the fort should be readily accessible from the west gate. Normally the opening in the two outer ditches would have been at the gateway itself, directly opposite the opening in the innermost ditch. But it seems to have been thought preferable to utilise the already existing Military Way rather than go to the trouble of breaking up and removing its closely compacted surface. The inconvenience caused by the troops having to pass along the berm before reaching the open would be trifling.

D. *The Continuation of the Military Way.*

The extension of the Wall of Hadrian from the fort at Wallsend to the Tyne provided us with a parallel to the extension of the Antonine Rampart to the Clyde. If the analogy is to be complete, there ought to have been a harbour at Old Kilpatrick, corresponding to the harbour at Wallsend. Mr Miller assumed that there was, and it was upon that assumption that the 'harbour-enclosure' theory rested. He unquestionably makes out a strong *prima facie* case. Such a harbour, he explains, "would give communication by water with the forts and harbours in Cumberland and Lancashire as well as with the legionary bases on the west—that at Chester (then a port) and that at Caerleon near the mouth of the Usk."² This is aptly said, and I do not think anyone had said it before. But, if Mr Miller is entitled to the credit of being the first to recognise that a port on the Clyde was an integral part of the frontier scheme of Lollius Urbicus, it is more than doubtful whether he was equally happy in his selection of a site. A brief survey of the history of the river³ will show how unlikely it is that the Roman harbour was at Old Kilpatrick. It must have been some distance away, so that a road would be necessary to reach it. That, I believe, is why the Military Way was continued.

To-day great liners, whose tonnage is reckoned in thousands, can be

¹ *Old Kilpatrick*, p. 8, footnote. Mr Miller tells me that his recollection is not sufficiently clear to enable him to say positively whether the same was the case with the ends of the other two ditches. If it was not, then the Military Way must have inclined to the right on getting clear of the opening. If it was, the odd shape of the ends, on which I have commented above (p. 233, footnote), might possibly be explained by the fact that they had to be cut through the hard and intractable surface of the road.

² *Op. cit.*, p. 8.

³ For help in connection with the history of the river I have to thank Mr G. W. Service, a well-known member of the Clyde Trust, now Lord Dean of Guild of Glasgow. The most authoritative work is *The River Clyde*, published in 1876 by the late Mr James Deas, then Engineer to the Trust.

seen threading their way through the channel opposite the fort with almost as much confidence as the tiniest of river craft. For a generation familiar with that spectacle, it is not easy to realise that little more than a century and a half ago the Clyde was fordable on foot at Dumbuck, fully two miles below Old Kilpatrick. The condition of things in 1759 is succinctly set forth in the preamble to the first of the Clyde Navigation Acts, which dates from that year: "The river Clyde from Dumbuck to the Bridge of Glasgow is so very shallow in several parts thereof that boats, lighters, barges or other vessels cannot pass to and from the City of Glasgow except it be in the time of flood or high water at spring tides." Nor is there any reason to believe that it was otherwise in Roman days, for the obstruction was not due to ordinary banks of mud or sand, such as might have been produced by silting. The shoal at Dumbuck, the first and most formidable of the twelve main obstacles, was a ridge of stiff clay, covered with an uncommonly hard crust of gravel.

In 1566 detachments of the inhabitants of Glasgow, Renfrew, and Dumbarton made a determined attempt to open up this shoal, "at which they laboured for several weeks, residing during the time in temporary huts, built on the river banks, near the scene of their operations."¹ That little or no success can have attended their efforts, or any subsequent ones on similar lines, may be inferred from the fact that a hundred years later the shipping port of Glasgow was Irvine on the Ayrshire coast. But the extra cost of land transport was a serious hindrance to the development of trade, and in 1658 Glasgow approached Dumbarton with a request for harbour facilities. On being met with a refusal, the Magistrates turned their eyes to the other side of the river. In 1662 they purchased 13 acres of ground and laid out Port-Glasgow with harbours and the first graving-dock in Scotland. Nevertheless the determination to bring ships up to Glasgow itself remained unabated. As an earnest of the future, the Broomielaw was built in 1688, although the Dumbuck shoal was destined to remain unconquered for eighty or ninety years more. At length, in 1768, an English engineer, John Golborne of Chester, recommended what proved to be effective measures for dealing with it. The level of the water was raised several feet by running out from the south bank a series of rubble jetties which confined the current within much narrower limits, and a powerful dredger was then employed to break through the hard crust of gravel. Thereafter the passage so formed was kept clear, and even deepened, by the scour of the tide, the action of which was intensified by the more restricted space available.

¹ Deas, *The River Clyde*, p. 3.

That, of course, is by no means the whole of the story. Down to 1818, after much time and labour had been expended in improving the waterway, it sometimes happened in seasons of neap tide that lighters, drawing only $4\frac{1}{2}$ feet of water, took six weeks to complete the voyage from Greenock to Glasgow. But enough has been said to rule out the idea of the Romans having had a harbour at Old Kilpatrick. They would do what the Magistrates of Glasgow did in 1662, and provide accommodation for their ships below the shoal at Dumbuck. The first convenient spot would be Dumbarton, and it is to Dumbarton that we must suppose that the continuation of the Military Way extended. This has the incidental advantage of accounting in a most satisfactory way for the belief current among the older writers that the Wall ended, not at Old Kilpatrick, but at Dumbarton.¹ Later observers were sceptical as to the Wall having gone so far, the most competent of them all pointing out that "the mountains on the north side, along the skirts of which it must have been carried, . . . would render the continuation of it almost entirely useless." They took a different view about the Military Way. Thus Horsley, whose words I have just quoted and who knew better than most people what a Roman road was like, writes: "The military way has certainly been continued as far as *Dunglass*, for it is still very visible at *Dunnerbuck*, within half a mile or little more of *Dunglass*."² But, if the road was designed to maintain communication with a harbour, it must have gone beyond *Dunglass*, for *Dunglass*, which is not much more than a mile from Old Kilpatrick, is a mile higher up the stream than *Dumbuck*, and, if it went beyond *Dunglass*, *Dumbarton* was its obvious destination. Horsley would doubtless have taken it there, had the idea of a harbour occurred to him.

E. Conclusions.

1. The excavations of 1931 have thrown an interesting light on what happened at Old Kilpatrick during the period of construction. While the Wall-builders and the roadmakers were advancing from the east, another set of men—presumably the future garrison—were busy laying out the fort. Fig. 4 indicates that, while they were aware that the

¹ Bede (*Hist. Eccles.*, Bk. I. c. 12) says "*terminatur juxta urbem Alcluith*." Bishop Gibson in his edition of Camden's *Britannia* (1695) avers (p. 921) that it "reaches to *Dunbritton*." Gibson's authority, as we may gather from his preface, was Sir Robert Sibbald, and Sibbald in his *Historical Inquiries* (p. 28) appeals to the oral testimony and the papers of Dr Christopher Irvine (fl. 1638-85).

² *Britannia Romana*, p. 159. It is doubtful what place is meant by "*Dunnerbuck*," the name being now unknown. It is certainly not *Dumbuck*, which is lower down the river than *Dunglass*. Stuart (*Caledonia Romana*, p. 286, footnote) identifies it unhesitatingly with *Glenarbach*.

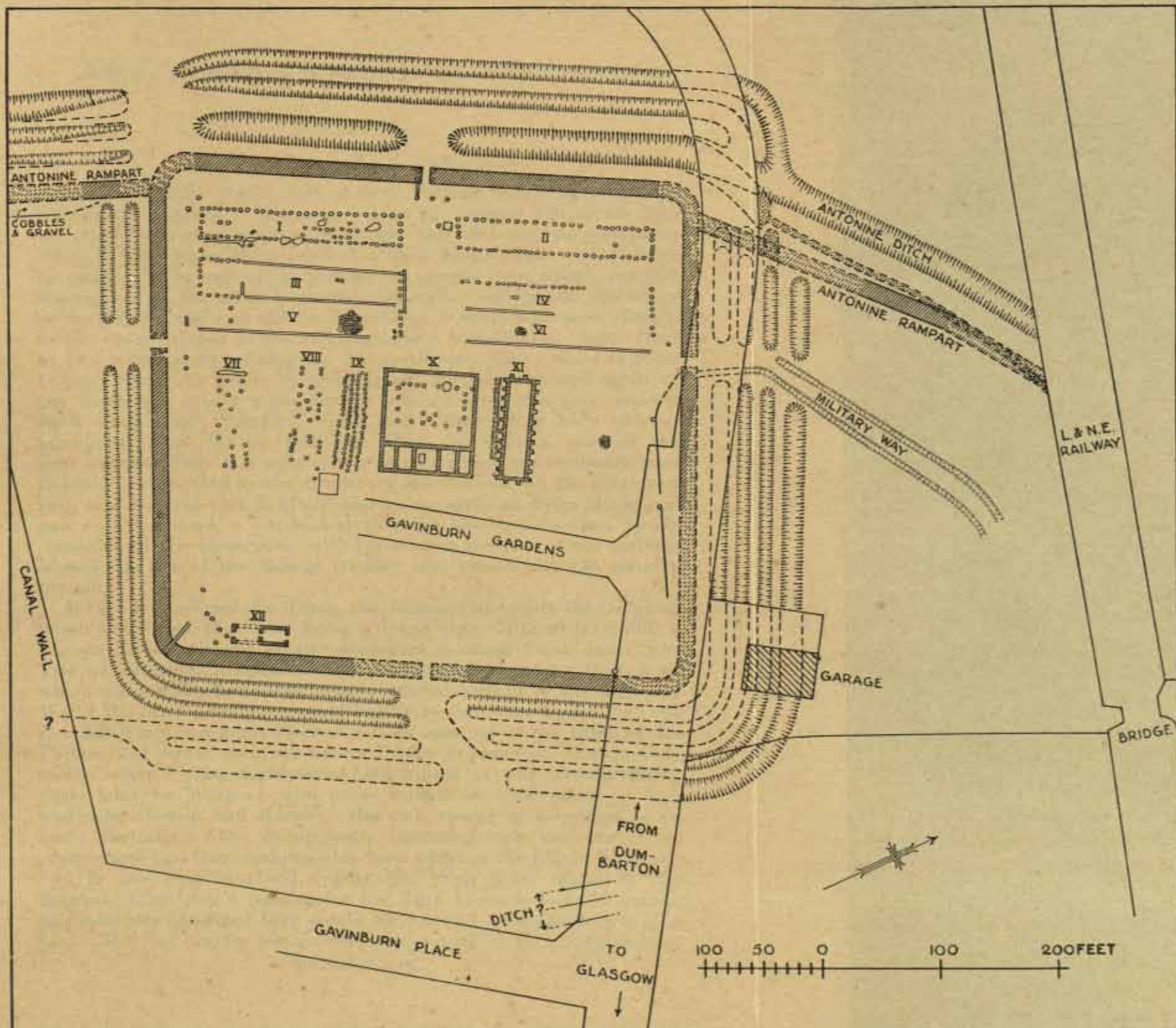
castellum was to be linked up with the Antonine Wall at each of the two western corners, the preparations they made for receiving it were not entirely satisfactory. In particular, the orientation of the fort was not properly adjusted. The front was turned too far towards the west.

2. The fort-builders were the first to complete their task, and they were ordered to set out to meet their comrades by carrying the Ditch and the Military Way north-eastwards. In both cases, but especially in the case of the Ditch (fig. 2), there was a certain amount of bungling, due partly to bad staff-work and partly to lack of experience. Ultimately the defences were completed in the form in which they appear in fig. 6, a gap being left at the south-west corner for the passage of the Military Way, which was continued down the river.

3. The original design for the Scottish Limes contemplated the provision of a harbour on the Clyde. But the river was not navigable at the spot which formed the most suitable terminus for Rampart and Ditch. The nearest point to which vessels could be brought, and at which they could be berthed, was fully four miles lower down the river. It was decided to construct the harbour there and to connect it with the 'terminal' fort by a road. Hence the continuation of the Military Way.

4. As I pointed out in 1911, there is overwhelming proof that the Wall and its forts were twice abandoned by the Romans and twice reoccupied by them before the final evacuation. On one or other of these occasions the harbour on the Clyde was definitely given up. The continuation of the Military Way then became useless, and accordingly the exit at the south-west corner of the fort was blocked. Simultaneously the defences—above all, the defences on the western side—were substantially strengthened, as shown in fig. 5.

5. If this reading of the facts revealed by the spade be correct, it represents a not inconsiderable addition to our knowledge. The giving up of the harbour can only mean that the narrows of Stranraer had ceased to be safe for Roman shipping. The strengthening of the defences carries us further. Old Kilpatrick is the only one of the Wall forts that has more than a single ditch in front, and the precaution betrays an apprehension of hostile landings. This is very significant. It was not from the Highlands that the real threat to the Roman line on the isthmus came. The untamed south-west was the Achilles-heel of the scheme of Lollius Urbicus. And behind the wild tribes of Galloway and Ayrshire there were already the roving bands of Scots from Ireland, who were presently to become so serious a menace to the security of the whole of the Romanised portion of the Province.



SIR GEORGE MACDONALD.

PLATE IX.

[To face page 242.]

II. CROY HILL.

A. *The Break in the Antonine Ditch.*

The site of the Roman fort of Croy, marked to-day by a solitary cottage and a group of tall trees, lies on the eastern side of the Hill, the *castellum* having occupied the larger half of a shelf or plateau on which in later times there perched a little hamlet, built mainly from its ruins. To the west of the plateau the ground rises steeply towards the top, but on the north it descends somewhat rapidly into the valley of the Kelvin, while on the south and east it drops still more sharply to the lower reaches of the shoulder which supports the shelf. Only at two points is access easy—at the south-west, where there is room to pass round the knolls in front almost on the level, and again at the north-east, where a junction is effected with the long, narrow bank along which Rampart, Ditch, and Military Way have climbed laboriously from Wester Dullatur. Over the western part of the level expanse there is a good depth of soil, which has evidently been intensively cultivated by the dwellers in the hamlet. On the south and east, however, the rock is often close to the surface. From the south-east corner, indeed, a hog-backed ridge of basalt, sometimes barely concealed by the grass, runs northwards along the face of the plateau, crosses the line of the Roman frontier, and passes into the country beyond.

Where it traverses the Ditch, the Romans have left this ridge of basalt untouched, the result being a break from 70 to 80 feet wide, a feature that is without parallel elsewhere between Forth and Clyde. Two centuries ago it attracted the attention of Alexander Gordon, to whom we owe the first attempt at a detailed account of the Antonine Wall. His brief description could hardly be improved upon: "At the *Croe-hill*, there is a great Piece of a Rock rises out of the Ditch of the *Vallum*, and serves, as it were, for a Bridge to pass from the one Side to the other."¹ The explanation here hinted at was scouted thirty years later by Maitland, who never missed an opportunity of contradicting Gordon and Horsley. His own theory is so quaint as to merit quotation. After emphatically dissenting from the view of his predecessors that there had probably been a fort on the hill, he proceeds: "As in this neighbourhood appear the great pains taken by the Romans, in erecting a passage for the ditch through rocks, it cannot be reasonably imagined they would leave a rock undemolished in this part. Now as I am, for certain reasons (too long to be inserted in this

¹ *Itin. Sept.*, p. 56.

place), of opinion that rocks vegetate, the rock here, by its form, must have sprung up since the making of the said ditch; which is the only mean I can think of, to secure the wall at this place without a fort."¹

Ever since I discovered the remains of the fort in 1920, I had realised that the spade might throw some light upon the problem presented by the break, and I therefore gladly availed myself of the opportunity that offered itself a year ago. My hope was that an examination of the ground immediately behind would supply a convincing answer to the question whether the ridge of rock had been utilised by the garrison for passing to and fro across the Ditch. If a breach in the Rampart and positive indications of a gate were found, Gordon's suggestion of a 'Bridge' would be definitely confirmed. On the other hand, even if the Rampart ran on without interruption, the Berm might show traces of having seen service as a thoroughfare, and in that event one might safely infer that it had been used for traffic between the 'Bridge' and the fort, the north gate of which was not more than 70 yards away (PLATE X.). For reasons which will appear as we proceed, the result of the inquiry was inconclusive. On the whole, the balance of evidence seemed to be in favour of Gordon's guess. But the proof was not complete. Nor will a final verdict be possible unless and until the suite of Baths, on which we most unexpectedly lighted, has been carefully excavated, along with its surroundings. For such an enterprise more labour, and therefore more money than was at my disposal, would have been needed. Accordingly I thought it right to be content with ascertaining the general character of the building, and this I was fortunately able to do without any serious disturbance of the stratification. The little that I have to say about it will be said later on.

Our first step was to determine the exact line which the Rampart must have been following when it encountered the ridge of rock. Two cross-sections were cut, one 80 feet and the other 178 feet east of the stone dyke that bounds the modern roadway. In the first the stone foundation was no more than a foot below the present surface; in the second we had to go down twice as far before we hit upon it. We then dug cross-sections inwards from these at intervals, and noted that on both sides the ground rose quickly towards the highest point

¹ *Hist. of Scotland*, vol. i. p. 176. Mr Samuel Smith tells me that the vegetating of rocks is still an article of faith with some of the older generation of farmers. Absurd as Maitland's application of it is, the idea itself is not quite so irrational as might at first sight appear. Mr Smith points out that, where a slope is ploughed over for a series of years, the upper part of it insensibly tends to become denuded as the loosened soil is washed downwards by the rain. If, therefore, it happens to contain rocks, these gradually approach the surface and ultimately rise above it, not because they are vegetating, but because the surface-level is falling.

of the ridge. The ordinary foundation soon gave place to irregular masses of cobbles and, as we approached the top, the cobbles too disappeared, leaving only the bare rock. That was certainly suggestive. Nevertheless it would be rash to regard it as demonstrating conclusively that the Rampart had not been continuous. When there was a solid substructure of Nature's making ready to hand, the stone foundation might have been dispensed with and the turf wall reared directly upon the rock. Alternatively, the irregular masses of cobbles may have represented the débris of a stone foundation that had been swept away and scattered by the plough, whose intervention was otherwise vouched for. Surprising as it may seem, even this unpromising patch had at one time been cultivated. Indentations made in the basalt by the ploughshare were observed as soon as the thin covering of soil was stripped from the surface.

We next proceeded to push outwards across the Berm. Here we failed to find anything resembling the remains of a road coming from the west. But we did observe two features that might be interpreted as indications of a thoroughfare that had led northwards from an opening in the Rampart to the end of the 'Bridge.' In the first place, on the west side pebbles and small fragments of stone, which were clearly intrusive, were lurking in the holes with which the rock was here and there pitted. In the second place, a curious built drain, some part at least of which had unquestionably extended beyond the line of the Rampart, ran downhill for 5 feet in a north to south direction, reminding us all of a similar drain in the approach to the west gate at Mumrills. Such further evidence as could be gathered from the ground immediately to the south of the presumed opening was of more doubtful relevance. There were unmistakable signs of disturbance and occupation—intrusive clay, black matter, two sherds of pottery, and some appearance of post-holes. These disposed us for a moment to think of a guard-house. But, when we stumbled on a large building which turned out to be the Baths, we realised that the whole area would have to be thoroughly examined before any part of it could be usefully reported upon. To treat it piecemeal would be futile.

B. *The Antonine Fort.*

(a) *The Defences.*—If the attack on the first objective at Croy Hill was indecisive, that directed against the second gave us a great deal more than I had allowed myself to hope for. The brief investigation of 1920—it was restricted to a couple of days—had accomplished its immediate purpose, which was to establish once for all the existence

of the fort. But it had left matters in such a position that, as I stated at the time, further exploration was "eminently desirable."¹ A large part of the western side of the *castellum*, including the west gateway and the south-west corner, had been definitely located. The rampart, however, so far as we could see, was represented only by a band of cobbles, not more than 3 feet broad and seemingly finished on both faces, while there was no trace of any ditch or ditches outside of it. These features appeared to point to a system of defence entirely different from any known to have been employed elsewhere on the line of the Wall. First impressions of an anomaly so flagrant were somewhat disturbing, nor had reflection and a vain search for parallels made me easier in mind about it. Accordingly, as soon as it became obvious that there was nothing more to be gained by further work opposite the break, I arranged to resume the original inquiry at the point at which it had been interrupted in 1920.

As PLATE X. shows, we were able to recover the whole outline of the defences and to rid ourselves of the idea that they had been of the unorthodox type which the experience of 1920 had suggested. On the other hand, the surmise that the fort had been a small one turned out to be correct. Internally it measured 243 feet from east to west and 270 feet from north to south, dimensions which gave it an area of almost exactly an acre and a half. It was thus rather larger than Rough Castle, but only half as large as Bar Hill and less than a fourth of the size of Mumrills. If allowance be made for the Headquarters Building, a single granary, workshops and the like, it will be clear that the space available for barracks would be quite inadequate for the accommodation of an auxiliary cohort of 500 men. The garrison must have consisted of a smaller unit. The description that follows will reveal minor constructional irregularities, at once more numerous and more considerable than is customary; but all of these can be readily enough accounted for by the character of the terrain from a geological point of view. Before entering into details it is worth directing attention to the interesting manner in which the plan as set out on PLATE X. illustrates what has already been said regarding the configuration of the site. The line along which the Military Way comes up to the east gate is an accurate reflection of the contour of the surface at the north-eastern corner of the plateau, while that at which it leaves the west gate was necessary in order to avoid the steep ascent which a straight course would have involved.

On the north front the Antonine Rampart had served as the main defence. That the ground along which it ran had originally been uneven

¹ *Proceedings*, vol. lix. (1924-25), p. 288.

was obvious from the fact that the stone foundation, which occasionally rested directly upon the rock, had sometimes been laid at a depth considerably lower than the Roman surface adjacent to it on the south. In other words, the northern face of the hill had been cut away, wherever its removal would conduce to the securing of a level bed. Thus, at the junction between the east rampart of the fort and the Antonine Rampart the stone foundation of the former was no less than 2 feet 6 inches higher than the stone foundation of the latter. In the case of the west rampart, where the corresponding difference was 1 foot 10 inches, there was actually an 'overlap' of a foot and a half, a feature which was specially interesting as making it certain that the Wall-builders had reached Croy Hill at least as soon as the men who were responsible for the erection of the fort. The contrast with Balmuildy and Old Kilpatrick was remarkable. A peculiarity more difficult to understand was observed just outside the north-east corner, where a row of boulders, running from east to west, had been set into the turf immediately above the north kerb but a foot and a half higher.

It will be observed from the plan that within the fort the Antonine Rampart, coming from the east, swings slightly to the right before arriving at the gate. The deviation, which is curious in the circumstances, may well have been dictated by the conformation of the underlying rock. It is possible that the position of the gateway itself is to be similarly explained. It is not in the middle, as one might have expected, but decidedly nearer the west. Outside of it we found nothing to encourage the idea that the road which issued from it had passed eastwards along the Berm to the 'Bridge.' On the contrary, the cobbling extended northwards, clearly defined to right and left all the way across the Berm, which was here abnormally narrow, having a width of only 15 feet. What befell it, when it reached the Ditch, we shall unfortunately never learn, because for nearly the whole stretch along the front of the fort the ground beyond the scarp has at some not very remote date been excavated to form a dam, now abandoned and overgrown with grass and rushes. It is, however, difficult to believe that the road did not somehow or other reach the basalt ridge, of which the break in the Ditch formed part. As matters stand to-day, that is the easiest route down into the valley.

On the remaining three sides the fort had been girt with a rampart of turf. Positive proof that this had been so was obtained at the two northern extremities. It was only there that any fragments of the body of the rampart had survived, and in both cases the layering showed up with perfect distinctness in the sections. In some respects the stone foundation was unusual. It did not appear to have been

laid with the regularity that characterised the corresponding foundation at other forts, such as Bar Hill, Rough Castle, and Mumrills. It is true that in a section cut between the north-east corner and the east gate the cobbling was continuous all the way across, with the conventional kerbs. Elsewhere, however, it tended to be patchy. At the north-west corner, for instance, there was merely a band of laid stones, 6 feet broad, on either side, with no very definite kerbing and with a clear space of 8 or 9 feet between them. Again, farther south on the same front there seemed to be nothing but the strip of 3 feet which we had discovered in 1920 and which in 1931 we found to be on the inner side. At the same time one or two scattered stones suggested that there may once have been a similar strip on the outer side also. The other two fronts were in still more evil case. On these not much of the rampart had been left anywhere except towards the north-east corner, and between the south gate and the east gate a diligent search revealed no sign of it at all.

At the north-east corner there was, as we shall learn presently, a special reason why extra care should have been taken to provide a solid bottoming. Round the rest of the enclosure, however, the rock was near, often very near, the surface, and it appears to have been felt that something a good deal less elaborate would suffice. Mr John Clarke informs me that, except on the north-west front, the turf rampart of the fort at Cadder rested on two parallel bands of large cobbles with a clear space between them, and it would appear that the method generally employed at Croy Hill was similar. With it I am disposed to connect another unusual feature—the exceptional breadth of the base, which measured on an average about 19 feet, as compared with 12 or 13 feet at Bar Hill and Mumrills. The greater width of the foundation would compensate for its comparative flimsiness and would give a certain stability to the whole. On the other hand, it would do nothing to protect the cobbling from the ravages of the plough after the superstructure had been levelled, and there is no doubt that cultivation is very largely responsible for the mutilated condition of such vestiges as are left. So serious has been the destruction on the south and east that absolute accuracy can hardly be claimed even for the position assigned to the gates on those two sides on PLATE X. Still, there cannot be much amiss. On the east we had the remains of the Military Way as a pointer, and on the south we had débris suggestive of the former presence of a guard-house—burnt matter, pottery sherds, and a ballista ball.

I come now to the ditches. After what has been said, it will not be difficult to understand why we failed to detect any trace of them

in 1920. Referring to their non-appearance then, I wrote: "It may be that our exploratory trenches were not carried sufficiently far out from the cobbling."¹ Although I was disposed to set that explanation aside at the time, it was, after all, the true one. Misled by the finished appearance of the outside of the band of stones which we had exposed, and particularly by what looked like a projecting buttress of semi-circular form, we had been satisfied with pushing our trenches 18 or 20 feet westwards and southwards, assuming that this was the maximum width that need be allowed for a berm. In thinking matters over I had reached the conclusion that we had certainly been too hasty in taking it for granted that the western limit of the cobbling represented the outer face of the rampart. Consequently, upon the second occasion I gave instructions that the exploratory trenches were to be longer. They did not require to be very much longer, for we learned incidentally that one of those dug in 1920 had missed striking the margin of a ditch by no more than a single foot! But the discovery that we had been wrong was by no means the end of our troubles. It would be truer to say that it was only the beginning. The ditch-system had had peculiarities every whit as distinctive as those that had characterised the rampart, although they were different in kind, and to work it out completely was a much more laborious affair than might be gathered from the plan. In the light of previous experience we were reluctant to acquiesce in the seeming absence of a ditch until every possibility of error had been eliminated.

The rocky nature of the terrain was once more responsible. On the west side this factor was almost negligible, for there (as was mentioned at the outset) the depth of soil was considerable. It was fortunate that it should have been so. This portion of the plateau is commanded by the higher ground beyond, and for so vulnerable a front the three ditches by which it was covered (PLATE X.) would be none too many. As we were engaged on a reconnaissance merely, and not on an exhaustive excavation, we did not clear them out, but went down only so far as was necessary to ensure the ascertainment of their approximate surface-dimensions. For details of these it will be sufficient to refer to the plan. But it may be said generally that the narrowest was 11 or 12 feet wide and the broadest 15 or 16 feet. It deserves to be noted that the interval separating the innermost from the one next to it was singularly small, not more than $2\frac{1}{2}$ or 3 feet. The way in which all three are looped on the north side of the gate also calls for remark; it will be remembered that there is reason for suspecting the existence of a similar arrangement on the north side of the east gate at Old Kilpatrick. Lastly, it will be

¹ *Proceedings*, vol. xlix. (1914-15), p. 289.

observed that the outermost ditch did not approach so near to the Antonine Rampart as did its companions. This is because the workmen had been brought up against a rock projecting southwards.

The south front offers a very different picture. Its western extremity shared, to some extent at least, in the weakness to which the whole of the west side was exposed, and here, just as on the west side, the soil was deep enough to allow of the digging of ditches. Farther east, on the other hand, the rampart ran along the top of a slope so steep as to render any additional defence unnecessary;¹ a slope, moreover, in which no ditch worthy of the name could have been cut without an immense expenditure of labour. It is a solid mass of rock, overspread with what is merely a thin mantle of turf. These conditions are mirrored in the plan (PLATE X.). While the outermost of the three western ditches went no farther than the corner, the other two were continued round it and carried without interruption along the south front for some distance beyond the gate. In their progress eastwards they grew shallower and shallower as the rock beneath them rose higher and higher. Ultimately, when the depth had decreased to little more than a foot or two, they terminated abruptly against an outcrop of basalt. Opposite the gate they had been reinforced by a third ditch, 85 feet long. This can hardly be called a *tutulus*, inasmuch as there was no gap in the inner ditches for it to screen, but its length recalls the additional ditch outside the west gate of Bar Hill.

On the east front the conditions were in the main identical with those prevailing in the adjacent sector on the south, and over the greater part of it our search for ditches was accordingly fruitless. To make assurance doubly sure we cut numerous trenches on the flat ground at the foot of the slope. The soil here proved to be remarkably 'free.' At one point, indeed, fragments of Roman pottery were unearthed at a depth of fully 4 feet below the modern surface. We inferred that we were working on what had been in Roman times the bed of a small loch, and the inference was confirmed by the rushes which still grow luxuriantly all over it in clumps. We may therefore suppose that the south-east corner of the fort and the major portion of the east side have had a natural defence in the shape of what was virtually a moat, a supposition that makes the absence of the conventional form of defence more readily intelligible. The solitary ditch was one at the north-east corner. It was 75 feet long, and its position is significant, being exactly over against the only practicable line of approach—that followed by the Military Way. The angle at which it lies (PLATE X.) is no less significant, although from a different

¹ That there were circumstances in which a ditch was not regarded as essential is clear from Hyginus *De Mun. Castr.*, c. 26 ("Fossa loco securiori causa disciplinae").

point of view. Instead of running parallel to the rampart it runs parallel to the summit of the hog-backed basalt ridge, in a 'pocket' to the west of which it has been dug. We had occasion to clear it out, and found that it had been 9 or 10 feet deep.

(b) *The Interior Buildings.*—On the assumption that the Principia or Headquarters Building faced north, as it would almost certainly do, we may conclude from the position of the gates that it lay within the area now partly covered by the kitchen-garden of the cottage. This accords with information given us by the tenant as to foundations against which he was apt to strike in planting his potatoes. The only other points from which any evidence regarding the interior came were the two northern corners. At the north-west corner, immediately within the angle, we found what must have been the cobbled flooring of an angle-tower, along with one or two ballista balls and small fragments of pottery. The floor was 2 feet 8 inches below the level of the foundation of the fort rampart, and there was some appearance of steps. At the north-east corner we made a remarkable discovery for which we were in no wise prepared, and the full implications of which are hardly likely to be satisfactorily determined until the Baths and the area round about them have been thoroughly explored. Except as regards the facts, the following account of it is meant to be provisional only.

When the foundation at the northern end of the east rampart was uncovered, it was found to have sagged downwards very considerably. In a length of little more than 4 feet there was a central depression a foot and a half deep, a quite unmistakable indication that at this point the subsoil was 'made up.' Suspecting the presence of a pit, and hoping for a pit associated with a pre-Antonine occupation, we dug a hole close to the east or outer side of the foundation and ascertained that the ground there had been excavated for at least 12 feet below the modern surface. The cavity contained much black and red matter, resembling the waste products of a furnace, but it yielded no relics worth mentioning except a few 'clinkers,' or calcined lumps of iron slag, which were not far from the top. These last at once suggested a connection with smelting. At the same time the proximity of the Baths (PLATE X.) made it possible that what we were turning over was the refuse from the hypocausts. The information obtainable from the limited area which we opened up was not sufficient to enable us to decide in favour of either alternative, and the question must remain unsettled till the Bath-house and its adjuncts have been examined; and only then is there any likelihood of the most puzzling feature of all being elucidated—the great depth to which the excavation had been carried. It seemed clear that the hollow had not been a rubbish-pit, as we had

at first thought probable. On the other hand, when we struck the natural soil, its appearance was not inconsistent with the idea that we had got into the corner of a ditch, which had turned westwards and over which the rampart of the fort had been built. In order to put this theory to the test, we proceeded to break through what we had assumed to be the floor of the north-eastern angle-tower. Here a surprise awaited us.

On the north side we had already observed masonry below the level of the Antonine Rampart, but had supposed that this was merely intended to strengthen the foundations of the tower. As soon, however, as we had penetrated a little way down on the west side, which was the one on which we had elected to dig, masonry began to show itself here too, and it quickly became plain that there were so many tiers of it as to exclude the possibility that it was a foundation. It was in reality one of the facing walls of a stone-lined underground structure. Before describing this structure in detail, it will be well to give a brief summary of the stratification of the filling, compiled with the aid of Mr Mann's careful notes:

That the filling had been done in rather haphazard fashion was plain from the fact that the thickness of the strata was far from uniform, usually reaching its maximum near the centre. The work of clearance was carried out from the south wall northwards. On the top was a layer of grey arable soil, 3 feet thick, under which was a layer of black burnt matter—2 inches thick at first, but increasing to 6 inches at the centre and then thinning out again as it approached the north wall. Below was a foot or so of grey soil, intermingled with black burnt matter. This was followed by a stratum of red burnt matter, as much as 3 feet thick at one point, but hardly extending beyond the centre. In it were broken lumps of rock and pieces of freestone, the latter sometimes dressed. Below this came about a foot of marshy soil, interspersed with grey earth to an extent that made it look like clay, and separated by 3 inches of black burnt matter from the mass of mainly greyish soil which occupied the bottom and which contained more lumps of rock and pieces of freestone, occasionally dressed. Fragments of pottery and the like occurred at various levels, but their total number was not large, none were of any considerable size, and all appeared to be of second-century date. A curious feature was a 6-inch layer of coal ashes, which had been spread directly on the top of the south wall and of the southern half of the west wall.¹

When cleared, the chamber presented a most interesting sight. The news of its discovery spread through the neighbourhood and, so long as it remained open, it attracted hundreds of visitors on Saturday afternoons and Sundays. The opinion was freely expressed that advantage should be taken of the Ancient Monuments Act to keep it permanently on view. With this idea it was impossible not to sympathise,

¹ Cf. the 6-inch stratum of small pieces of coal at the bottom of a rubbish-pit at Bar Hill (*Bar Hill*, p. 62).

but after very careful consideration and full discussion with the staff of H.M. Office of Works it was decided that in the meantime it would be safer to cover it in. Should the Baths ever be excavated and prove worthy of preservation, the underground chamber might appropriately be exposed once more and included in a larger group, which would form a representative illustration of buildings of the Roman period in Scotland. No adequate conception of its impressive appearance can be conveyed in words, but Mr Calder's excellent plans and sections, along with the photographs which I owe to the kindness of friends,¹ may serve to supplement the inevitable deficiencies of a verbal description.

In shape the chamber was a somewhat irregular quadrilateral. No very exact dimensions can be given, as one side has been almost completely destroyed. The stone facing, however, was about 7 feet high and measured at the top 11 feet from north to south by 6 feet from east to west, exclusive of a recess for a staircase, while the corresponding measurements at the bottom were 7 feet and 4 feet. The masonry was of first-rate quality. Its ten lowest tiers showed only a slight batter, but the five or six above them were carefully stepped back, obviously to provide a secure base for a wall that had risen above them. These features are well brought out in the accompanying illustration of the south face (fig. 7), which had suffered but little damage. The west face, which was also comparatively intact, was notable as containing a flight of five steps, each step consisting of a double tier. It was notable, too, for the survival *in situ* of three stones which had belonged to the lowest course of the wall above, and which can be seen in fig. 8 immediately to the right of the staircase. The one next the steps had a pivot-hole in the centre, and thus marks the position of the door.

On the east side, instead of masonry, was a huge conglomeration of earth and boulders, which had been piled up to serve as a bed for the foundation of the fort rampart (fig. 9). Its exposure at once put an end to all speculation as to the immediate cause of the sagging that had originally attracted our attention. Nothing was left of the stone facing here except the 'tusking,' which can be seen projecting from the south wall on the right hand in fig. 9 and on the left hand in fig. 7. The north side (fig. 10) was also partially ruinous. Some of the upper tiers had disappeared, and the whole of the stones which had formed the right 'cheek' of a conspicuous opening were gone. The latter had evidently been removed at the same time as the facing of

¹ Mr J. S. Richardson, Mr C. S. T. Calder, and Mr J. D. Lyford-Pike. In looking at the photographs it must be borne in mind that they had to be taken from above, so that the perspective is inevitably distorted by the angle at which the camera had to be held.



Fig. 7. South face of stone-lined Pit.



Fig. 8. West face of stone-lined Pit, showing steps.



Fig. 9. East side of stone-lined Pit, showing tusing for destroyed wall.



Fig. 10. North face of stone-lined Pit, showing partially destroyed mouth of conduit.

the east wall, but its position can be identified by the manner in which the rock has been cut away to permit of its insertion. It should be added that the large boulder lying on the top of the rock is quite obviously not in its natural place. That it has fallen forward is proved by the masonry immediately behind it. We may be sure that it was not where it is now, when the lintel and the superincumbent stones were laid.



Fig. 11. Bottom of stone-lined Pit, showing cutting in rock.

It will not have escaped notice that the opening just referred to, being the mouth of a conduit which passed under the Antonine Rampart, confirms a conclusion that the earlier illustrations must already have suggested: the stone-lined structure has been somehow or other connected with the storage of water. What the precise connection was depends largely upon the nature and purpose of the conduit, the crucial question being whether it was an outlet or an inlet. Before embarking on any discussion of this, it will be well to say something as to what lay beneath the masonry. When the water that had accumulated had been baled out—a process that had to be repeated at frequent intervals—it was seen that there was a roughly circular hole in the centre of the rocky bottom (fig. 11). Its maximum length was 3 feet 9 inches and its maximum width a foot less, and it descended with

gradually converging sides to a point 3 feet 2 inches below the lowest tier of masonry. On the north, south, and west the cavity had been cut through solid rock. On the east, however, there were visible only small boulders and two lumps of freestone, which looked as if they had either been thrown in or had rolled in accidentally. Round the sides and at the lowest point there was a good deal of iron ore sediment.

All the material required for visualising the conduit will be found in the two plans reproduced in fig. 12, if they are studied in conjunction with the longitudinal section A-A which accompanies them. Its mouth, as shown in fig. 10, was 3 feet high and had probably been about a foot wide. So far as that portion of the channel which passed under the Antonine Rampart is concerned, the line laid down is necessarily conjectural; it could not have been accurately determined without displacing everything above it, and in the circumstances such a proceeding would have been sheer waste of labour. But the evidence from the ends, more particularly from the northern end, indicated that the ground through which it had been constructed was rocky and that it had pursued a slightly sinuous course in order to avoid obstacles. A remarkable feature was the massiveness of the stones with which it had been covered after it issued from beneath the Rampart. Three of these survived, one still *in situ*, and instead of being the comparatively thin slabs that might have been expected they had a thickness of fully a foot. It looked as if they might have been intended to support some heavy structure such as a sluice. Of this, however, there was no trace. From beneath the north kerb of the Rampart the conduit was continued for about 20 feet towards the Ditch, on to the scarp of which it must have opened at some distance down the slope, the centre of the Ditch being then some 13 or 14 feet away. At first the bottom was of rock, but 7 feet short of the terminal point the rock gave out and had been replaced by paving. Similarly, when the sides were not of rock, care had been taken to protect them against collapse by a lining of masonry.

As to what I have called the crucial question of inlet against outlet, some may be disposed to think that the longitudinal section A-A (fig. 12) gives a categorical answer. The highest part of the floor of the conduit is the paved portion towards its northern extremity. At the inner edge of this there is a perpendicular drop of 3 inches. Thereafter a partial recovery is followed by a gradual and continuous decline, which ultimately reduces the level by 6 additional inches before the opening into the underground chamber is reached. As water runs downhill, one's first impulse on learning how matters stood was to regard the conduit as an inlet; but, if it was an inlet, the building beneath the

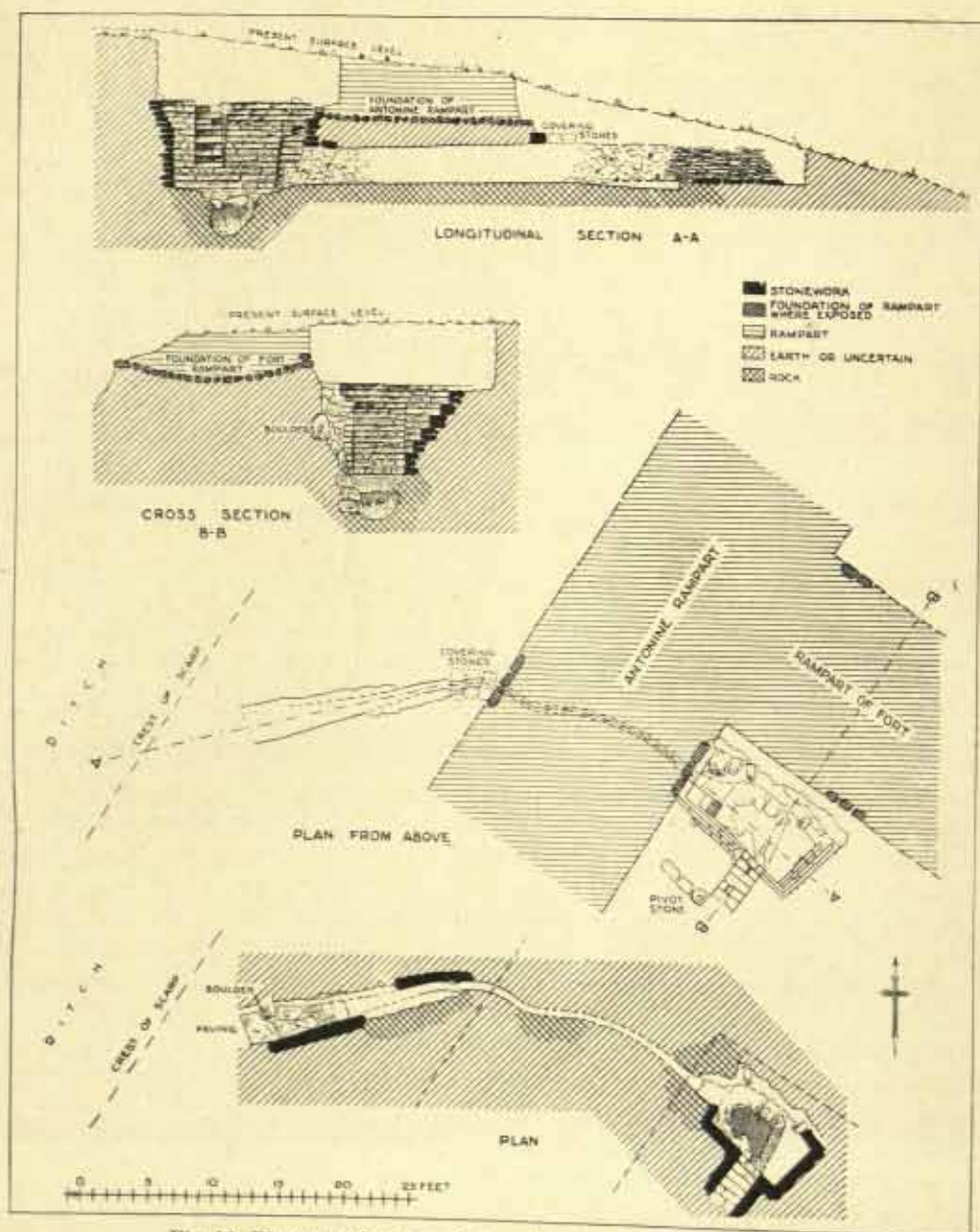


Fig. 12. Plans and Sections of stone-lined Pit beneath north-east angle-tower of Fort at Croy Hill.

angle-tower can only have been a cistern or tank for storing water that had collected in the Ditch. Water certainly did collect in the Ditch, for there was a deposit of 6 inches of silt outside the northern extremity of the conduit, and it is perhaps just conceivable that the basalt ridge may have been left untouched in order that it might serve as a dam. But why all this trouble to bring into the fort water that at the best cannot have been very clean? The enormous pains which the Romans lavished on the construction of aqueducts are a measure of the value they attached to the purity of their drinking water. More plausible is the suggestion that the building has at one time been a cistern for the Baths. But this, too, leaves much to be explained. Would such water be deemed suitable even for bathing? Why bring the cistern inside the fort if the Baths were to be outside, more especially when it interfered so seriously with the normal arrangement of an angle-tower? Why were such commodious steps provided for a mere cistern? And why were the steps in the frequent use that is indicated by the condition of the hole for the pivot on which the door swung to and fro?

The alternative is to interpret the conduit as an outlet, despite the fact that its floor slopes up from inside outwards. The building would then be the remains of a covered well which has, when in use, been fed by a spring. The object of the conduit would be to ensure that the water never rose above the level of the bottom of the steps, and the object of the upward tilt would be to ensure that it never fell below it. But why should it not have been allowed to rise all the way to the surface, as it would have done had there not been an outlet? The obvious reply is that it would have been extraordinarily inconvenient to have had, in this particular position, a well of the ordinary type, involving as that would have done a tall and open superstructure, which would have made an angle-tower impossible. On the other hand, by keeping the level of the water low, the well could be completely covered in, while the superstructure need not have been any higher than was necessary to give head-room to those entering and leaving the staircase by the door. As it was of stone, it might quite well have served as the base of a tower. In fact, on the assumption that the only spring which was found when the fort was being laid out was close to what was destined to be the site of an angle-tower—and springs would be few and far between on a hill of basalt—it is hard to see in what better way the situation could have been met.

There are, of course, difficulties; but to me, on the evidence at present available, they seem less formidable than those attending any other explanation. Thus, the question as to why there is no spring

now can be effectively answered by pointing to the heaps of mineral refuse which cumber the hillside below. The coal-getting operations to which these bear witness can hardly have failed to affect the natural drainage-system profoundly. It is less easy to account for the two pieces of dressed freestone which were observed on the east side of the rock-cut bottom, unless indeed their presence there was accidental. Mr J. S. Richardson, who regarded the conduit as an inlet, was of opinion that they had been deliberately packed in, and saw in them evidence of "the blocking of what appeared to be an outlet draining off into the lower ground." An outlet here, however, would not have drained off into "the lower ground," but into an excavation 10 or 12 feet beneath the surface and some way below the floor of the hypocausts of the Baths, whose foundations the running water would have tended to undermine. And even if it be granted that there has been deliberate packing, was the aperture necessarily an outlet? Might it not have been an inlet giving passage to the supply from the spring?

Convincing answers to these and other questions are not likely to be forthcoming until the immediately adjoining area outside the fort has been properly excavated, as it must be if and when the Baths are opened up. So far as I can learn, there is no parallel elsewhere that would be helpful.¹ Meanwhile I may note one or two points of chronological interest. The relation of the conduit to the Antonine Rampart shows that the Wall-builders and the fort-builders must have been at work simultaneously. As the construction of the conduit undoubtedly preceded the laying of the foundation beneath which it passes, the stone-lined structure, whatever its purpose, must belong to the beginning of the Antonine period. Whether it was a well or whether it was a cistern in which water for the Baths was stored, it fell out of use within the limits of the Roman period and was filled in by the Romans themselves. The pieces of dressed freestone which were mixed with the filling, including the two found in the rock-cut bottom, had in all likelihood belonged to the missing east wall. They were, however, too few in number to represent anything like the whole of it. The others were probably utilised elsewhere. This suggests that rebuilding was going on at the time, and that again tempts one to hazard a guess at the course of events. Although my conclusions are of the most tentative character, they may form a useful starting-point for future inquiry.

Like the stone-lined structure itself, the great artificial hollow outside must be closely associated with the building of the fort.

¹ The curious arrangement under one of the angle-towers of the fort at Ribchester seems to have been entirely different (*Journ. Rom. Studies*, vol. xix, pp. 191 f.).

Perhaps it was dug in the search for water. If springs were scarce, it would be natural to try and find one in a spot which would be convenient both for the Baths and for the fort. At all events, where the east rampart was to pass over it, the cavity had to be filled with earth and boulders to support the stone foundation, and it was against this heterogeneous mass (fig. 9) that the facing wall on the east was reared. It was a treacherous backing and, as it settled down, the masonry would be gradually forced forward, ultimately collapsing completely. Possibly the collapse should be associated with one or other of the two occasions on which the forts along the Wall had to be temporarily abandoned by their garrisons. We know that there was partial destruction then. When the position was regained and the buildings restored, the well of the fort was moved to a more suitable spot, where a spring had in the meantime been discovered. Whatever may have been the case at first, the well was most certainly not beneath the angle-tower during the later stages of the occupation, and it is far from unlikely that the proved weakness of the original arrangement may have been the motive that prompted the change. In conclusion it is worth adding that, when scanning the face which is shown in fig. 9, Mr Richardson's trained eye detected what he took to be signs that the upper part was considerably later in date than the lower. If he is right, the rampart must at some time have undergone extensive repair. This would fit in admirably with the tentative conclusions that have just been put forward.

(c) *The Bath-house.*—For reasons which have already been stated, I do not think it either necessary or desirable to say much about the Bath-house. It was situated outside the north-east corner of the fort between the Antonine Rampart and the Military Way, and was a long, narrow building, measuring 67 feet from east to west by 12 feet from north to south. In spite of its narrowness it seemed to have been divided longitudinally at its western end, and there were certainly two transverse partitions. Outside, to the south, there was a gravelled area which may have been a small courtyard. A hearth in an unexpected place, and some appearance of cobbling above the walls, raised doubts as to whether the building had continued in use until the close of the occupation. However that may be, there was clear evidence that it had not escaped the vicissitudes to which such establishments seem to have been peculiarly liable.

Suspicion that the Bath-house could not be far away was first aroused by the discovery of the two drains that can be seen running eastwards on PLATE X. With their help it was possible to reconstruct the general plan without breaking the surface. The larger of

the two, which had obviously carried away the waste water from the cold bath, issued from the eastern end of the building, and it was thus clear that the Frigidarium and the Apodyterium had been there, probably combined in a single apartment. The smaller one, which joined it and which could only represent the outflow from the hot bath, apparently came from the room at the south-west corner. This room would then be the Caldarium, and the room in the middle would be the Tepidarium. We penetrated into the Caldarium through clay—good clay—and stones to a depth of 6 feet, and found that it had been hypocausted and that the masonry of the walls was recessed at intervals for the upward passage of the hot air, exactly as in the corresponding rooms of the Men's Baths at Mumrills. The floor seemed to have been laid on a bottoming of boulders. In the case of the Tepidarium all we did was to raise a large flag a few inches and peer into the space below. The hypocaust pillars, on which the flag rested, were still standing erect, 3 feet high, just as the Romans had left them. At the extreme east we merely uncovered a small portion of the paving, which was of excellent workmanship and was also interesting as providing evidence of two periods.

C. *The Agricolan Fort.*

In the account which I gave of the work done in 1920 I mentioned that at the south-west corner we had been puzzled by "the occurrence of a ditch or drain running from the interior but having no apparent outlet," and I added that "possibly it had belonged to an earlier 'lay out' of the *castellum*."¹ The reason for the apparent absence of any outlet was that it stopped short on reaching the cobbled remains of the rampart foundation. There was no time for a thorough investigation then. But in 1931 we struck the same ditch again, and on following it up were able to recover the greater part of the outline of an older fort (fig. 13), which resembled in many ways the little Agricolan fort on the Bar Hill (fig. 14) and which may be unhesitatingly assigned to the same period.

When we met with this ditch in 1931, it was running east and west, not far from the south gate of the larger fort, and was therefore perilously close to the rocky outcrop. That is doubtless why it was only 5 feet wide and 2½ feet deep here, as compared with 7 feet and 3 feet, which we found to be its normal dimensions wherever there was an abundance of soil. Its general appearance at once recalled that of the short length of palisade-trench, which had been observed at Mumrills. The inference that it, too, had been a palisade-trench

¹ *Proceedings*, vol. lix. (1924-25), p. 280.

was greatly strengthened by the fact that there were usually small boulders in the bottom, the purpose of these being to give the wooden posts a firmer grip. Repeated trials, however, drove us to the conclusion that there had been no ditch of the ordinary type outside, such as there

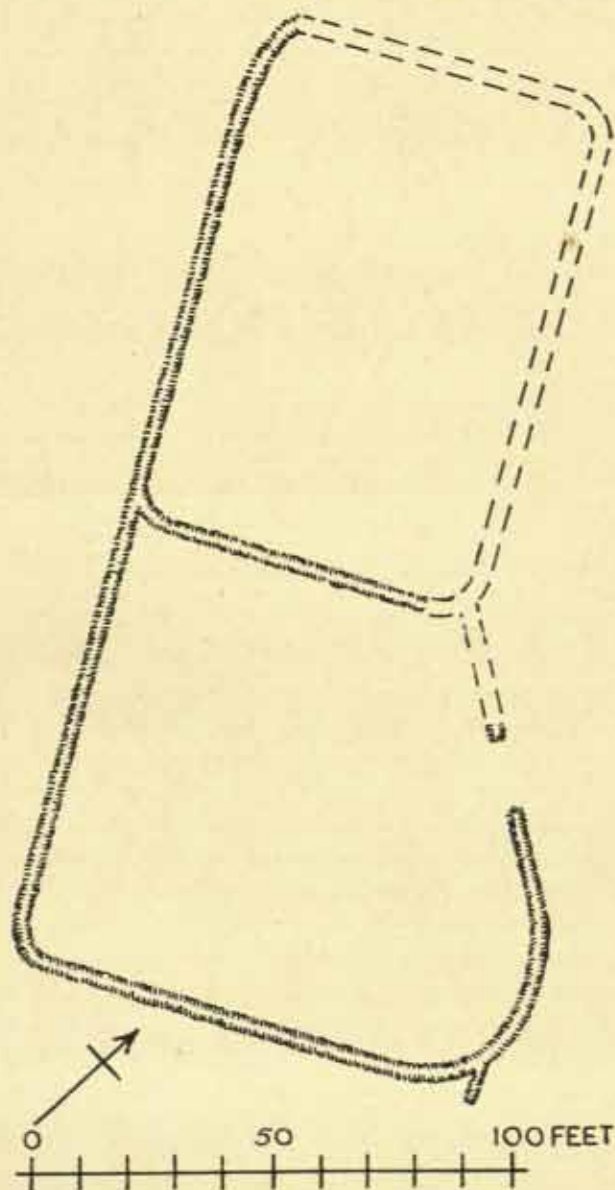


Fig. 13. Outline of Agricolan Fort on Croy Hill.

was at Mumrills. This may safely be attributed to a realisation of the rocky character of the terrain. That the smaller fort was the earlier of the two was proved by the manner in which the palisade-trench behaved when it met the stone foundation, disappearing beneath it abruptly and reappearing beyond it with equal abruptness. Still

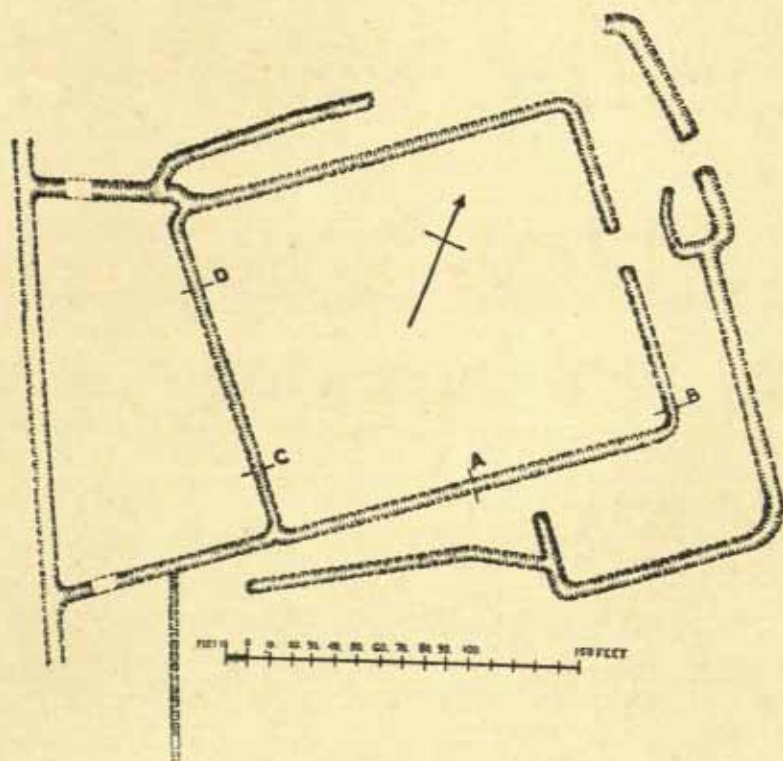


Fig. 14. Outline of Agricola Fort on the Bar Hill.

more convincing were the sections exposed on either side of the street leading to the west gate (PLATE X.). They left no shadow of doubt as to the relative age of street and trench.

Although the outline reproduced in fig. 13 is avowedly in some respects conjectural, there need be no hesitation in accepting it as approximately correct. The explanation of our failure to discover the north front is simple. The hamlet which Gordon and Horsley saw had been built over it, so that all our efforts to find it were baffled by seventeenth-century foundations. The curve at the north-west corner had, however, luckily been spared, and that is sufficient for the purposes of reconstruction.

The east front, too, lies mainly within the area of modern occupation. Indeed, the one remaining cottage actually bestrides it. Nevertheless the line it must have taken is fairly well assured by the position of the south-east corner, which cannot have been far from where the south front of the fort united with the east side of the annexe. If the point of junction could not be exactly fixed, this was largely due to the rockiness of this part of the ground, combined with its contiguity to the slope. The palisade-trench must in any case have been shallow, and it would inevitably suffer from denudation in the eighteen and a half centuries that have elapsed since it was dug.

As will be seen from PLATE X., the orientation of the Agricolan fort was different from that of its Antonine successor. Its major axis lay more nearly due north and south. In that direction it measured about 220 feet, as compared with about 160 from east to west. Its area was therefore rather more than three quarters of an acre, or about a third larger than that of its contemporary and neighbour on the Bar Hill. On the other hand, it was only about one-eighth of the area of the Agricolan fort at Mumrills. So marked a disparity cannot but have some significance. Does it mean that Agricola distributed his isthmus garrisons on a principle quite different from that afterwards adopted by Lollius Urbicus, and that he had, say, five or six large forts, strung out on a chain consisting of much smaller ones? It is certainly very difficult to believe that Mumrills was the only one of the nineteen that was held by a unit substantially larger than those stationed at Croy and Bar Hill. Besides, the tactical conditions were very far from being identical. Had the absence of a continuous barrier any bearing on the matter? In the present state of our knowledge such questions cannot be satisfactorily answered. Nevertheless it may be just worth while asking them.

The gate—for, on the analogy of Bar Hill, it seems unlikely that there was more than one—was probably on the east side. We can at least say definitely that it was not on the south or on the west. A feature of some interest is the stretch of road, 60 feet long, which runs parallel to the palisade-trench on the south, and the direction of which precludes us from associating it with the second-century fort. Finally, there is the annexe, the bulge on whose eastern side probably indicates that, when the workmen approached the mass of basalt, they thought it prudent to follow the line of least resistance. The area is roughly equal to the area of the fort proper, and the gap left for entrance has the remarkable width of 27 feet. I am inclined to suggest that here, and also at Bar Hill, the enclosure has been intended to serve a rather different purpose from that for which the annexes attached to the later fort were designed. Belonging as it does to the earliest phase of the invasion, it may have

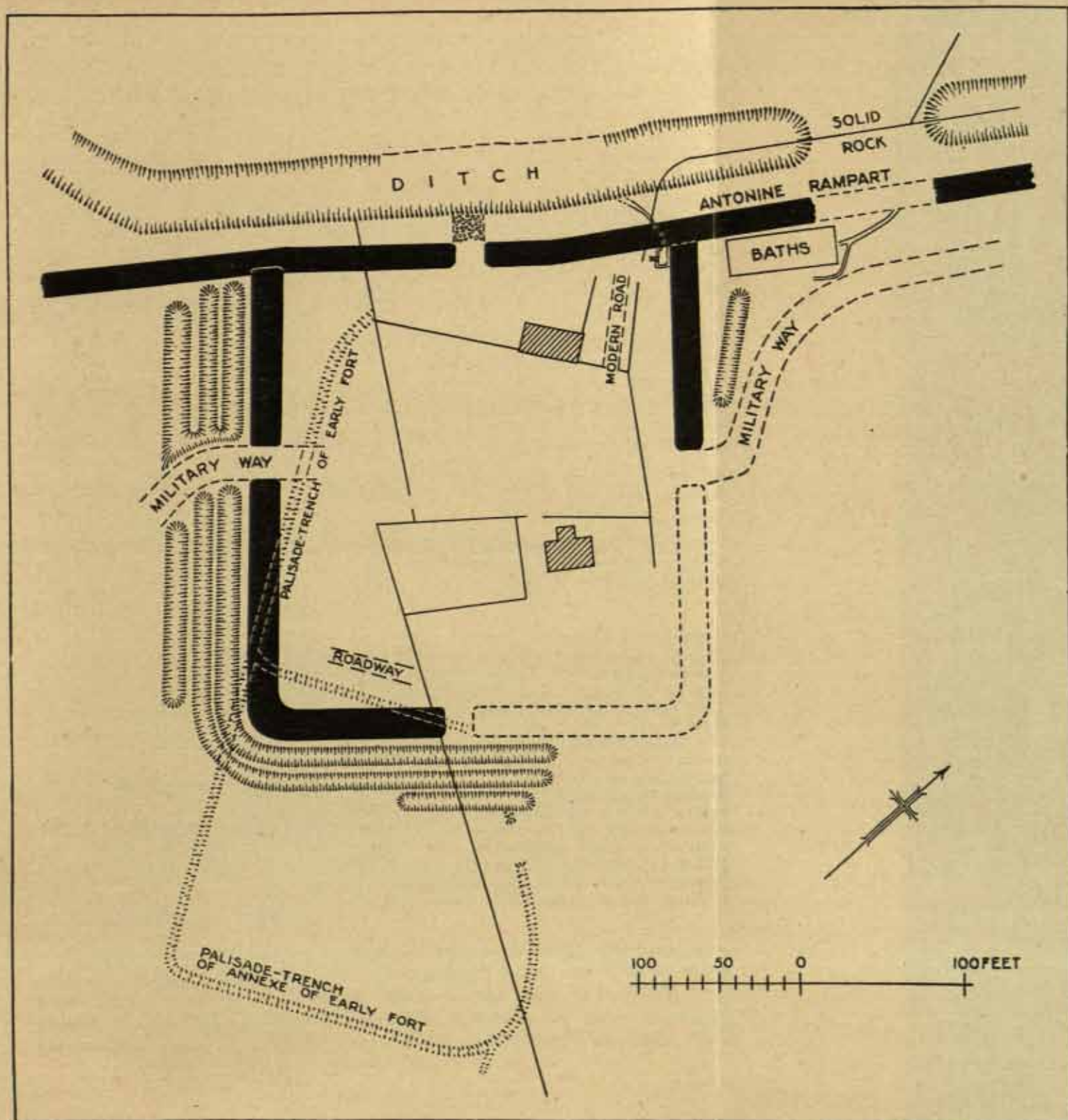
sheltered baggage animals, with their *impedimenta*, and possibly cattle. The curious projection at the south-east corner, where the ground falls steeply, can only have been for drainage.

D. *The Finds.*

The modest scale on which the undertaking was planned forbade any systematic turning over of the soil such as a more thorough-going investigation would have demanded. Our aim was merely to determine the 'anatomy' of the fort. Only in the case of the well or cistern, which we could not afford to leave unexplored, and in that of the shortest of the ditches, which we had a special reason for clearing out, did we go beyond the minimum that was essential for obtaining the data of which we were in search. The harvest of relics was consequently small. The whole of them, as well as the few that came to light in 1920, have been generously presented to the Museum by Carron Company. As a detailed list of the various objects would overload this Note without serving any useful purpose, it does not seem desirable to do more than describe them generally, drawing attention to any that call for particular remark. It will be found that among them there are two or three that point to interesting conclusions, while one is so important that I have reserved it for separate treatment.

(a) *Pottery*.—The pottery fragments, although not numerous, were thoroughly representative of a site that had been occupied during the second century. The few pieces of Samian, whether plain or decorated, appeared to be all of that date and to belong to one or other of the more ordinary types of dish, such as Dr. 18/31, Dr. 31, Dr. 33 and Dr. 37. The odds and ends of cooking-pots and 'pie-dishes' were clearly of the same period, and so too were the grey and red mortaria rims, one of which had on it a maker's stamp which I have not yet been able to decipher. Other items comprised broken bits of coarse ware—jugs and other vessels, and amphoræ. Much more interesting than any of these is a substantial portion of the side and flanged rim of a bowl of rather elegant shape and admirable workmanship. It was picked up on the west side of the fort in 1920. Its texture is very firm, and it has a smooth, almost soapy surface. The ware is one with which we are not familiar in Scotland;¹ but I am told that it is well known at York, and that the epithet 'legionary' is often applied to it. It is surely more than a coincidence that the only unit which the inscriptions enable us to connect with Croy Hill is a vexillation of the Sixth Legion, whose headquarters were, of course, at York.

¹ The only approach to a parallel in the Museum is the half of a buff-coloured bowl, smaller and of much more commonplace design, which is said to have come from Cadder.



(b) *Glass*.—The fragments of glass numbered barely half a dozen, but they included one piece that calls for special notice. It came from the immediate neighbourhood of the well or cistern, and is part of the rim of a bottle which had been so badly twisted in the process of manufacture that it can only be classed as a 'waster.' No one, however, would have taken the trouble to convey 'wasters' to the fort. We must therefore infer that, small as the garrison was, it had its own glass-blowers—a useful contribution to our knowledge of the economic life of such remote stations on the frontier.

(c) *Iron*.—Of the shapeless masses to which the iron objects had been reduced there were not more than two which repaid expert treatment. The first was a broken hippo-sandal, from which we can argue the presence of horses. The second was the head of a small pick-axe, such as might have been used in quarrying. It was taken out of the well or cistern, where it was lying just below the layer of red burnt matter. From end to end it measured nearly $11\frac{1}{2}$ inches, or only a trifle less than a very similar implement from Newstead.¹ When the rust that choked the hole for the handle had been removed, two or three small pieces of wood were found adhering to the inside. These were submitted to the Regius Keeper of the Royal Botanic Gardens, who had them microscopically examined by Mr M. Y. Orr. Mr Orr's report is so interesting that I reproduce it *in extenso*:—

"The identification of the wood from the head of the pick-axe found at Croy Hill has proved to be more difficult than was anticipated at first. The wood was impregnated with foreign substances, and chemical means had to be employed before its structure could be investigated. It was subsequently discovered that owing to the small size of the pieces only part of an annual ring was included, while the absence of another characteristic, as it happened, delayed the process of identification considerably. On such anatomical data as are available, I have no hesitation in naming the wood *oak*, and I would even venture further by suggesting the Holm or Evergreen Oak (*Quercus Ilex*). This opinion is based on both anatomical and physical features. As the evergreen oak is not a native of Britain but a Mediterranean species, it looks as if the handle of the pick must have been cut in Italy. It is of interest that C. Valerius Flaccus (A.D. 70) writes of javelins made of oak, but the kind of oak is not specified. The absence of large pores and the extent of the 'autumn' wood seem to rule out the common British Oak, and I do not think it could be any other species."

(c) *Stone*.—In 1920 no fewer than 14 ballista balls of different sizes were recovered in the course of the two days' work, and 8 or 10 more were found last year in different parts of the fort. Croy Hill thus presents a striking contrast to Mumrills, where a far more searching excavation, spread over three years, did not yield a single example. It is

¹ *A Roman Frontier Post*, Pl. lviii. 12.

perhaps not unreasonable to see in this some confirmation of the idea that the evacuation of Mumrills was an orderly one, the garrison withdrawing with all their supplies and munitions of war.¹ Apart from the sculptured fragments to be discussed in the Note that follows, the only other object of stone that need be mentioned is a flat-bottomed spherical block, broken in two and not quite complete, which formed part of the filling of the well or cistern. A circular hole of considerable depth, slightly grooved round the bottom by wear, has led Mr A. O. Curle to suggest to me that it may possibly have been a pivot-stone. The spherical shape might be accounted for by supposing that it was a case of re-use.

(d) *Miscellaneous*.—Under this head may be classed a few lumps of burnt daub, bearing the impression of wattles; three or four fragments of the sole of a nailed shoe; and a well-made and well-preserved brick, a little more than 8 inches square and $1\frac{1}{2}$ thick, which has probably once belonged to a hypocaust pillar. The burnt daub, while suggestive of a conflagration, shows also that some of the buildings were of wood, although the large number of wrought stones in the neighbouring dykes and walls proves that some of them must have been of more substantial character.

III. A RELIEF OF JUPITER DOLICHENUS.

Pride of place among the finds belongs easily to two fragments of a sculptured relief of the Syrian god, Jupiter Dolichenus. They were lying, about 4 feet down, in the short ditch outside the north-east corner of the fort, and with them were a few building stones. Hoping that it might contain other pieces of the shattered monument, I had the whole ditch cleared out to its full depth of 9 or 10 feet. Unfortunately there was nothing to reward our search except more building stones. Such a result was a real disappointment, for there is little doubt that the inscription, of which only five letters have survived, would have given us valuable information. But, even as matters stand, the discovery is of very great interest in several respects. To mention only two—it marks the most northerly point to which the far-flung cult of this Syrian deity is known to have penetrated, and at the same time it gives us the first actual representation of him that has come to light in Britain.

The relief has been carved on a slab of reddish sandstone about $7\frac{1}{2}$ inches in thickness. Apparently it had been let into the wall of a building, for both fragments are broached diagonally on the back, as if for the reception of mortar. The smaller of the two (fig. 15) measures

¹ *Proceedings*, vol. lxiii. (1928-29), p. 522.

11 $\frac{1}{2}$ inches by 9 $\frac{1}{2}$ inches, and displays the torso of a male figure, with head, legs, and fore-arms broken away. He wears a tunic, fastened with a girdle from which depend loose leather flaps or lambrequins. His sword, which is slung behind him, is supported by a belt passing over his right shoulder and across his chest. The pommel is visible beneath his left arm, while the lower part of the sheath projects at his right side. Taken by themselves, and without the conclusive evidence supplied by the second fragment, these characteristics would have been sufficient to enable us to recognise him. They are decidedly unusual, but are exactly those which distinguish the dress and equipment of Jupiter Dolichenus on the well-known bronze plaque from Heddernheim, now in the Landesmuseum at Wiesbaden (fig. 16).¹ With the help of this plaque the missing portions of our figure can be restored with certainty. The costume of the god has been completed by Oriental trousers and Persian headgear, one flap of which can be seen in fig. 15, just over his left shoulder. He has had a double-axe in his right hand and a thunderbolt in his left, and has had his feet planted on the back of a bull, standing to right, perhaps with a rosette upon its forehead. While there is a broad general resemblance between all the known representations of Jupiter Dolichenus, no two (so far as I am aware) agree with one another in minor details so closely as do figs. 15 and 16. It seems certain that both are modelled on a common original.² They differ markedly, for instance, from that which appears



Fig. 15. Fragment of sculptured Relief from Croy Hill, showing torso of Jupiter Dolichenus.

¹ It is a pleasure to acknowledge the kindness of the authorities of the Wiesbaden Museum, who, in response to an inquiry about details, were good enough to make and send me a cast to facilitate comparison.

² At one time there was a disposition to question the genuineness of the Heddernheim plaque. More than thirty years ago its authenticity was vindicated once for all by G. Loeschke (*Bonn. Jahrb.*, vol. cvii. p. 70). But, had any lingering doubts remained, the Croy Hill discovery would have disposed of them effectually.



Fig. 16. Bronze plaque from Hedderheim, showing figure of Jupiter Dolichenus (Wiesbaden Museum).

on a plaque of silvered bronze from Kömlöd in Hungary, which is to be seen in the National Museum at Buda-Pesth (fig. 17a).¹ There the sword and sword-belt, the Persian headgear, and the Oriental trousers will all be looked for in vain. At this juncture it may not be irrelevant to interpolate a word or two regarding the purpose of these plaques. As the inscription on the one from Hungary shows,² they were votive



a



b

Fig. 17. Two plaques of silvered bronze, once placed back to back, from Kömlöd, showing (a) Jupiter Dolichenus and (b) Jupiter Dolichenus and Juno Regina. (Buda-Pesth Museum.)

offerings. It used to be believed that they had been the sides of pyramids, but it is now universally agreed that they were fixed upright in a wooden framework, and that two of them were sometimes placed back to back.³ Their triangular shape has obviously had some esoteric meaning, at which it would be idle for us to guess; the knowledge of it must have perished with the last of the initiated. But, whatever it

¹ For the photographs from which figs. 17a and 17b are taken I have to thank Professor F. Lang of the University of Debreczen, who will shortly publish a valuable monograph on the whole subject.

² It is barely legible in the illustration, but reads—*Iovi Dulcheno P. Ael(ius) Lucilius (centurio) coh(ortis) I Alp(inorum) eq(uitatae)*.

³ See *Bonn. Jahrb.*, vol. cvii. pp. 60 f.

may have been, there is no doubt as to the general class to which the plaques belong. They were manufactured in the vicinity of the temple, and were sold to devout worshippers, who had them set up within the precincts or sometimes carried them away to preserve in their own homes. They are, in fact, the counterparts of the shrines for Diana which were made by Demetrius, the silversmith of Ephesus, and which "brought no small gain unto the craftsmen."¹

The Croy Hill relief, however, was far from being a slavish copy of the Heddernheim plaque. The figure of the god was virtually identical but, instead of being alone, he was accompanied by his consort. For proof of this we must turn to the second and larger fragment (fig. 18). It measures 1 foot 8 inches by 10½ inches, and contains a few letters of an inscription as well as a portion of the sculpture. I will take the latter first. It was not quite easy to be sure as to the animal whose legs and hinder part have survived, and the trained zoologists, whom I consulted, sometimes hesitated a little as to the sculptor's intention, so crudely is it expressed. But, while the shaggy feet are reminiscent of those of a carnivore, the characteristics of the bovine family appeared to predominate, putting the claims of the ox beyond dispute. At the first glance one might suppose that it is the bull on which the god has been standing, and that it is his foot whose remains are distinguishable just on the line of fracture. There are, however, two convincing reasons against such an interpretation. In the first place, in all similar representations the bull has its head towards the right. In the second place, the first line of the inscription consisted, as we shall see, of twelve letters and, if allowance be made for this, considerations of space make it certain that there must have been two animals, standing face to face.

Here we get help from another Hungarian plaque (fig. 17b), also of silvered bronze, which was originally placed back to back with fig. 17a. On the sinister side is Jupiter Dolichenus in the conventional attitude and with his usual attributes, while on the dexter side, standing upon the back of a he-goat, is his consort, generally called Juno Regina in the inscriptions. Between them is an altar. While the combined group is rarer than the single figure, parallels are by no means unknown. A remarkable example came to light quite recently in Bulgaria.² Professor Kazarow, Rector of the University of Sofia, has kindly sent me a photograph but, as the plaque is still unpublished, I do not feel free to reproduce it. Another (fig. 19), this time of silver, was found at Heddernheim and acquired for the British Museum in 1896.³ Although

¹ Acts, xix. 24.

² I owe my knowledge of this discovery to M. Franz Cumont.

³ I am indebted to Mr H. B. Walters for a photograph.

it is imperfect, it is valuable as serving to explain a feature of the Croy Hill relief, to which I have not yet alluded. Behind the figure of Juno Regina can be seen the upper part of a fluted Corinthian column, indicating that the two divinities are standing within an *aedicula* or



Fig. 18. Fragment of sculptured Relief from Croy Hill, showing remains of inscription.

shrine. It is obvious that a similar significance must attach to the lower part of the shaft which rises behind the tail of the animal in fig. 18.



Fig. 19. Silver plaque from Hedderheim, showing Jupiter Dolichenus and Juno Regina. (British Museum.)

The association between the god and his bull is constant. But, after the manner of her sex, the goddess is *varium et mutabile*. At Kömlöd, as we know, it is on the back of a he-goat that she is standing. On the Bulgarian example the animal is somewhat nondescript, but is probably a deer. Elsewhere we find a panther or a lioness,¹ and on a

¹ A sculptured relief at Kastell Faimingen on the German Limes (*O.R.L.*, vi. Nr. 66c. 52).

gilded plaque from Aalen in Württemberg we find a cow.¹ Fortified by the analogy from Aalen, we need not hesitate to decide as to what was in the mind of the sculptor of the Croy Hill relief, and we are then in a position to form a good idea of the appearance of its main elements. As to the minor adjuncts (if any) we can say nothing. The spacing suggests that a single pillar may possibly have been deemed sufficient to represent an *aedicula* or shrine, in the centre of which there has probably been a small altar, with the figures of Jupiter Dolichenus and Juno Regina on the sinister and dexter sides respectively. The god has been depicted in Oriental costume, standing on the back of a bull, and grasping a double-axe in his right hand and a thunderbolt in his left. His consort has been standing on a cow. Her dress and attributes are uncertain, but it may well be that she was portrayed very much as she appears on figs. 17 *b* and 19.

The inscription is even more fragmentary than the relief to which it refers. All that we can do with it is to complete the first line. It has read I·O·M·DOLICHENO—"To Jupiter, Most High and Most Holy, God of Doliche." This was the formula with which dedications to Jupiter Dolichenus regularly opened, and the four letters at the end of it are still distinctly legible on the stone. The last letter of the line immediately beneath is also visible. It appears to be L, but a residue so meagre provides no basis for conjecture of any kind. The loss of the remainder is much to be regretted. It would have told us who the dedicator was, what was his rank, and what the military unit to which he belonged. If it was dedicated by a regiment, we should have had its name and number. As it is, all we can say is that there is good reason to believe that the inscription has been a fairly long one. Where the skirt of the god's tunic projects between his legs, the stone is undercut to represent the folds of the garment, an unmistakable proof that the figure was intended to be looked at from below. The first line of the inscription cannot, therefore, have been very far from the level of the spectator's eye, which again means that a large part of the inscribed tablet is wanting. It is hardly necessary to add that the building, to the wall of which the relief was fastened, must have been of stone. It may have been a small temple, not in the fort itself but somewhere outside the ramparts. On the whole, however, it is much more likely that it was the Shrine of the Standards—the *sacellum* in the Headquarters Building—where the image of the god would occupy a central position, flanked on either hand by the *signa*.²

Before the end of the second century the Baal of the little town of

¹ Haug u. Sixt, *Die römischen Inschriften u. Bildwerke Württembergs*, vol. I. (1914) pp. 121 f. Nr. 57, fig. 23.

² V. Domaszewski, *Die Religion des römischen Heeres*, pp. 11 f.

Doliche in Commagene had won for himself a foremost place in the pantheon of the Roman army. To dwell upon the astonishing extent to which his worship spread would be out of place in a brief Note such as this.¹ But it may be convenient to append a list of the localities in Britain where he is known to have had his devotees. These include the legionary fortress at Caerleon; Plumptre Wall near Penrith; Piercebridge near Gainford; Benwell, Chesters, Aesica, and Carvoran, all on Hadrian's Wall; Bewcastle, High Rochester, and Birrens to the north of it; and, finally, Corbridge. It will be observed that all of these were military stations except the last, which was a town within the military area. As a rule, the evidence is supplied by altars dedicated to the god, but at Bewcastle and probably at Plumptre Wall there is mention of a *templum* or *aedes*.² One of the altars from Aesica has above the inscription a rudely cut representation of what has been supposed to be a cow to left with a small altar in front of it.³ A fine female figure in stone, with her feet planted on the back of an animal standing to left, found long ago at Chesters and now in the Clayton Memorial Museum there, was formerly believed to be Cybele, but has been identified by Monsieur Cumont as the consort of Jupiter Dolichenus.⁴ Until the discovery of the Croy Hill relief these were the only sculptures from Britain that could be associated with the god or his cult.

¹ Excellent summaries have been given by M. Franz Cumont in Pauly-Wissowa's *Real-Encyclopädie*, v. 1276 ff., and by M. Salomon Reinach in Daremberg et Saglio, *Dictionnaire*, vol. ii. pp. 329 ff.

² *C.I.L.*, vii. 976 and 316.

³ *C.I.L.*, vii. 725, and Hettner, *De Jove Dolicheno* (1877), p. 48.

⁴ *Syria*, vol. i. pp. 187 ff. Since the above was written, Mr R. C. Bosanquet, F.S.A., tells me that he thinks he has discovered a torso of the god among some stones at Chesters that had been thrown aside as useless.

II.

AN INVENTORY OF OBJECTS OF ROMAN AND PROVINCIAL ROMAN ORIGIN FOUND ON SITES IN SCOTLAND NOT DEFINITELY ASSOCIATED WITH ROMAN CONSTRUCTIONS. By JAMES CURLE, LL.D., F.S.A.Scot., F.S.A.

I. INTRODUCTORY.

The Roman occupation of Caledonia was never very secure, nor was it of long duration. No towns sprang up under its shelter. The villas and farms common in Southern Britain are absent. There are no traces of any buildings beyond those required for the occupation of a military force. The area covered by the Roman operations was considerable in extent, and for a time at least these operations must have profoundly affected the country. Tacitus, the chief Roman writer who attempts to present a record of a military campaign in Caledonia, for a moment lifts the curtain on the marches and the battles of Agricola, but though he conveys to us a knowledge of the struggle, as regards details he leaves us little the wiser. The accounts given by Dio and Herodian of the expedition of Severus are little better than romances.

Archaeology has done much to supplement the meagre facts which we can glean from literary sources indicating the extent to which Roman civilisation influenced Caledonia. It has gathered information from the excavation of Roman military constructions, the forts which held the Antonine Vallum or the lines of communication, the camps which sheltered the armies on the march. It has brought together the inscriptions and the relics that the troops left behind.

The line of the Roman advance from the South, crossing the Cheviots and passing through Newstead, on to Inveresk and the shores of the Forth, is plain. While the exact route taken by the western road through Birrens and by Annandale and Clydesdale past Castledykes to the northern isthmus is less certain, there can be little doubt that it existed. The line of the Antonine Vallum with its forts has been defined. North of the Forth and Clyde the forts and the marching camps have been traced through Perthshire on to Angus and Kincardine, and even as far north as Aberdeenshire.

Since 1885, when the Society of Antiquaries of Scotland undertook the excavation of Birrens, fourteen Roman forts have been examined, and planned more or less completely. Sir George Macdonald's studies of the Antonine Vallum have greatly extended our knowledge of its

construction. The collection of relics has largely increased. We have, as it were, recovered the skeleton of the occupation. It must be admitted, however, that the impression of men living and moving which comes when we find ourselves in touch with their personal belongings—arms, tools, or objects of daily use—is too often wanting. Except at Newstead, and perhaps at Bar Hill, where apparently circumstances led to hurried evacuation, the troops have left little behind them. On the other hand, there exists a number of objects, products of Italian or provincial Roman workshops, which have been found in Scotland on sites not definitely associated with Roman constructions, and from these we may glean some knowledge of the course of trade or the repercussions of the Roman invasion. Many such relics are preserved in the National Museum of Antiquities, Edinburgh, and the records of finds are scattered through the long series of volumes of the *Proceedings of the Society of Antiquaries of Scotland*,¹ or in other publications. One purpose of this paper is to compile an inventory of these objects and to facilitate reference to the articles that deal with them.

In the inventory which is appended, the occurrence of Roman finds on ninety-six sites in Scotland is recorded.²

Few of these objects came from Italy; most of them are provincial—products of Gaul, of the Rhineland, or of Britain. They are widely distributed over the country, though, as might be expected, the more important finds come from the area south of the Antonine Vallum, more accessible along the roads leading from the Great Wall, or by shipping. North of the Vallum the finds are most numerous in the eastern counties—at some time or other the scene of military operations. The fact that finds so often occur at no great distance from the coast makes it clear that seaborne traffic played a large part in their distribution. Certain of the relics described may have been found where left behind by Roman troops, but it is evident from the nature of the sites from which they have been recovered that a large proportion had undoubtedly drifted into native hands. In five instances these come from caves, all of them on the coast, and so widely apart as the Stewartry of Kirkcudbright, Fife, and Moray. In eight they appear to be associated with lake-dwellings in South-western Scotland. In six they are from earth-houses (underground dwellings), all with one exception in the county of Angus; in twelve from brochs, the stone towers which form so typical an archaeological feature of Northern Scotland, and of the Orkneys and Shetland, and of which a few rare examples have

¹ The *Proceedings of the Society of Antiquaries of Scotland* are referred to as *Proc.*

² The numbers in the inventory run from 1 to 92, but four numbers have been duplicated.

been noted in the Lowlands. In ten the association is with native forts, hilltop sites surrounded by lines of fortification which served as places of defence or villages; in four, with kitchen-middens; in six, with interments. In three instances there is association with objects which are obviously of native origin. Lastly, in forty-two instances the finds were sporadic, unconnected with remains of native objects or constructions, but even among these there are not a few which occur so far from Roman sites or lines of communication that at the time the objects were concealed or lost they must have been in native keeping.

As regards the geographical distribution, fifty-seven of the finds come from the counties south of the Vallum, and thirty-nine from counties north of that line. The details are as follows:—

Counties South of the Vallum.

Midlothian, 6; West Lothian, 3; East Lothian, 5; Berwick, 4; Roxburgh, 7; Selkirk, 2; Peebles, 3; Dumfries, 4; Kirkcudbright, 5; Wigtown, 4; Ayr, 6; Lanark, 7; Renfrew, 1.

Counties North of the Vallum.

Fife, 4; Stirling, 2; Argyll, 3; Perth, 1; Angus, 7; Aberdeen, 3; Moray, 4; Sutherland, 2; Caithness, 4; Orkney, 5; Ross and Cromarty, 1; Inverness, 3.

The majority of the entries in the inventory refer to pottery, which is more widely distributed than any other provincial Roman product; next in order of numbers come the bronze vessels, which are not infrequent, but on the whole the area over which these have been found is less extensive. Glass, too, is noted—generally it is extremely fragmentary, though the fragments are sufficient to indicate the class of vessels which drifted into Caledonia during the Roman period.

Iron tools present considerable difficulty. At Newstead such tools as the dolabra were typically Roman; on the other hand, there were others which did not differ materially from those found on native sites. It is quite evident, for example, that the lake-dwellers in Ayrshire were accustomed to tools and were skilled in their use, and their tools may have been made locally from native patterns. The only important finds of iron tools and metal work, however, have been made in the country south of the Antonine Wall, which was more freely permeated by Roman influence than the north. It seems probable that among these finds we have not only the product of the native smith but also imported material, and, therefore, they have been included.

Brooches are dealt with, though the great majority of these must emanate from native workshops. They are typical products of the time, and, if one may judge from their presence in the forts, they must have come north with the Roman troops, and, indeed, comparatively few of them have been found at any great distance from the occupied area.

The inventory also embraces a few miscellaneous objects which do not belong to any of the foregoing categories. It has not been thought necessary to deal in any detail with the silver hoard found at Traprain, as that has been fully treated in Mr A. O. Curle's *Treasure of Traprain*; nor to include coins, as Sir George Macdonald has already published exhaustive lists of all the coins found in Scotland, whether on Roman or on native sites, that have been brought to his notice.¹ In view, however, of their bearing on the chronology of Roman products found, and in order to define the limits of the period during which Roman products were circulating in Caledonia, one or two finds made in recent years call for mention. In the table appended to Sir George Macdonald's first paper he gives a series of Imperial coins found on Roman sites, beginning with Augustus and ending with Commodus. There is no reason to suppose that any of these coins were in circulation in Caledonia before the expedition of Agricola in A.D. 80. We do not know with any certainty when the Agricolan occupation came to an end. It probably lasted up to the accession of Trajan in A.D. 98, possibly even until well on in that Emperor's reign. But we know that the reoccupation of Caledonia in the reign of Pius, and the erection of the Vallum between the Firths of Forth and Clyde, took place about A.D. 142, and the termination of the series of coins found on Roman sites indicates that the country was evacuated shortly after the accession of Commodus about A.D. 180. The period of more or less settled occupation is thus defined, while the evidence obtained at Newstead has made it possible to distinguish the pottery and other objects which came North in the first or early second century from those which belong to the Antonine period.

In the third century we have the historical fact of the expedition of Severus in A.D. 207. We know nothing of the route followed by his armies, nor can we identify a single fort which he constructed. But his coins, with those of Caracalla and Geta, occur in considerable numbers at Cramond on the shores of the Firth of Forth, and it seems possible that he transported his troops thither by sea, and that Cramond formed the base of his operations. On no other Roman fort in Scotland, excavated or unexcavated, is there any trace of the coins of Severus and his family, although coins of this Emperor are recorded

¹ *Proc.*, vols. lii. p. 203, and lviii. p. 325.

from hoards which have come to light in the counties of Fife, Kinross, and Kincardine. The contact with Caledonia established in his reign must have been of short duration, and in any case can hardly have lasted long after his death in A.D. 211.

After the expedition of Severus there is no evidence of any attempt to re-establish Roman supremacy north of the wall of Hadrian. The country had been finally abandoned, and yet coins of the later third and fourth centuries from time to time come to light, indicating that some connection with the South was still maintained, and that Roman products must have filtered across the frontier, or have been carried by adventurous traders round the coast. We can, as yet, identify little that they left behind them, but we may feel sure that the coins did not come alone. We have definite proof that this was the case at Traprain, where we have a series of coins illustrating the contact of the native population with Roman civilisation over a comparatively long period. The coins divide themselves into two groups. The earlier, which must have reached Traprain during the occupation of Caledonia in the first and second centuries, consists of twenty coins, beginning with a legionary denarius of Mark Antony, and includes issues of Nero, Vespasian, Titus, Domitian, Nerva, Trajan, Hadrian, Pius, and the elder Faustina. The later, which consists of twenty-nine coins, begins in the middle of the third century, and ends with the fourth or early fifth century.

The coins are as follows:—

Gallienus	A.D. 253-268	2
Victorinus	263-267	1
Tetricus	267-273	1
Probus	276-281	1
Carausius	287-293	3
Allectus	293-296	1
Galerius Maximus	305-311	1
Constantine I.	306-337	2
Constantine II.	317-340	2
Magnentius	350-353	2
Valentinian I.	364-375	1
Valens	364-378	2
Valentinian II.	375-392	1
Honorius	395-423	2
Constantinian coins		2
Billon of Alexandria		1
Doubtful		
Theodosius	379-395	1
Arcadius	395-408	2
Fourth century		1

It is important to note that with the exception of four coins, those of Valens, Valentinian II., and two of Honorius, found with the silver treasure, the coins at Traprain were all picked up singly.

The absence of any coins at Traprain minted during the period between the death of Pius and the accession of Gallienus suggests a temporary abandonment of the site, but the same scarcity of coins belonging to the early third century is noted by Sir George Macdonald in enumerating the finds from the whole of the Scottish area, and he points out that, while the absence of coins belonging to the first half of the third century might be regarded as significant of a period of prolonged unrest, issues belonging to this particular half-century are relatively scarce on Hadrian's Wall and in other parts of Southern Britain.

Three other comparatively recent finds of late coins on native sites may be mentioned here as showing that their currency was not confined to one area and that they travelled far. At the Sculptor's Cave, in Moray, Miss Benton found nine dating from the fourth century—Magnentius, Constantius Gallus, Constantius II., Constans, and Constantine II., struck between A.D. 337 and 354—together with 220 barbarous imitations of Roman fourth-century coins, some of which had clearly been used as ornaments. Again, during the excavation of an earth-house at Garrylochdrach, Vallay Strand, North Uist, a second-brass coin of Constantius II. was found three feet below the surface. Lastly, at Balgreggan, Wigtownshire, in 1913 a jar was unearthed containing brass coins of Helena, Constantine the Great, Constantius, Constans, Magnentius, and Decentius—125 in all. The probable date of burial was about A.D. 354.

Wherever possible, an endeavour has been made to give some indication of the nature of the site and the objects found in association with Roman products. In a number of cases this could not be done, for too often, particularly in the case of the older finds, the records of the National Museum have only preserved the name of the place concerned, and sometimes only the district.

Both the National Museum and local collections contain other objects which belong to the period dealt with, but in the absence of any record of their provenance these have been excluded.

POTTERY.

Roman pottery accounts for 42 entries. In 21 instances these belong to the south of the Vallum; in 21 to the north. The majority of the finds are from sites lying at no great distance from the sea. They thus indicate traffic round the coast, moving along the shores of Galloway and Ayr, creeping up the Argyllshire lochs, and taking more adventurous

voyages to Uist and Lewis, or sailing northward from the Tyne, carrying Roman wares to the coasts of Lothian and Fife, trafficking with the native people in Angus or Moray or the broch-dwellers in Caithness, facing the perils of the Pentland Firth and reaching out to the Orkneys.

The most distinctive and the most widely distributed of the products of Roman kilns which found their way into Caledonia was Terra Sigillata or Samian ware. No doubt its bright colour made it attractive compared with the rough hand-made dishes of the natives. The coarser Roman wares must also have circulated, but records of their occurrence are much less numerous than those of Sigillata. The possession of Roman dishes, in any case, must have been a luxury, judging from the small number of the fragments which have been gathered from native sites other than Traprain.

The finds of pottery which can be associated with the Flavian occupation are few, and with one exception all come from the area south of the Vallum.

From the foundations of a crannog at Hyndford, near Lanark [No. 51],¹ there were gathered a considerable number of small pieces of Sigillata, trampled under foot and broken in pieces (fig. 64). Decorated bowls, including Type D. 29, as well as undecorated vessels, were represented. The presence of not less than twelve dishes of Sigillata and one small beaker of buff-coloured ware is certain. All of these vessels appear to be unmistakably of Flavian date. One of the decorated bowls probably came from the workshop of the potter Mommo, whose wares are found at Pompeii. The significance of this find is of importance. The dwellers in the Hyndford crannog must have come in touch with Roman wares during the Agricolaan occupation. Their settlement lay only about four and a half miles from the fort of Castledykes, near Carstairs, which is undoubtedly Roman, and from the Roman road which is believed to have led North through Annandale and Clydesdale. It might seem a safe assumption that the road was in existence before the end of the first century, and that the pottery which came to Hyndford was brought from the South along that route. But the excavation of Birrens further south, also on the line of the road, undertaken in 1895, did not reveal a single fragment assignable to the Flavian period. On the other hand, one piece of early Sigillata pottery has been identified among the scanty finds from the fort of Lyne in Peeblesshire. This fort lies isolated, and we do not know how it was connected with Central Scotland, or what roads reached it from the South. It is possible that it may have been a link in a chain which passed northward through

¹ The numbers in square brackets following references to sites correspond with those in the inventory. They also indicate the position of the finds on the map of Scotland which is appended.

Castledykes from Newstead after traversing the valleys of the Upper Tweed and Lyne Water.

Pottery of the first century is certainly present at Traprain [No. 13] (fig. 41), where the stamps of the potters Chresimus and Dagomarus indicate importations in the Flavian period. Altogether 130 fragments of Sigillata from this site are preserved in the National Museum, but the proportion of these that can be assigned to the first century is very small. The pottery of the Torwoodlee Broch [No. 26] is early. There is a fragment of the rim of the platter D. 15-17, three pieces of D. 18, and two small sherds from a cup, D. 33, together with some pieces of coarse ware, amber glass, and large blue glass bottles with reeded handles, accompanied by a coin of Vespasian. The piece of the rim of a bowl, D. 37 (fig. 1, no. 1), found at Dowalton Loch, Wigtownshire [No. 39], is Flavian, and the fragment of the cup D. 27, from the Borness Cave [No. 35], appears also to be early. It is curious to find a single early piece in the far North. A small fragment of a bowl, D. 29 (fig. 1, no. 2), was discovered in the Everley Broch on the east coast of Caithness [No. 80].

The larger proportion of the pottery found in Scotland, whether on Roman or on native sites, appears to belong to the second century. The names of three potters of this period occur on Sigillata at Traprain—Cinnamus, Albucianus, and Gatus or Catus—and there is a record of the stamp of Adiectus on a dish found at Inchgarvie in West Lothian [No. 6].

While no stamps other than those mentioned have been noted on native sites, it is evident that Sigillata found its way to many parts of Caledonia. Unfortunately, however, its presence is in several instances attested by little more than a single fragment, too small to enable us to distinguish its period or its provenance. On the south-west it occurs at the Mote of Mark, Kirkeudbrightshire [No. 38], and at Sandhead on Luce Bay [No. 40]. In the last of these the pottery was found in association with a burial. This appears to be the only instance as yet recorded of a cremated burial, in no way associated with a Roman site, with which Roman products had been deposited. Two Sigillata vessels had been laid with the ashes; only a portion of the rim of the larger of these, Type D. 37, remained, showing part of the ovolo border; of the other, which appears to have been of the Type D. 72, decorated with diamond-shaped incisions, there were several small pieces. This type of dish is uncommon in Scotland, and probably belongs to the latter half of the second century, but as it occurs both at Balmuirdy and Castlecary, it does not indicate a date later than Commodus. So far we have no evidence of any Roman penetration

into this remote corner of Wigtownshire, but the whole circumstances of the burial—the vessels, the iron finger-ring set with its intaglio, and remains of iron weapons which accompanied them—point to an intruder from the sea, and to the cremation and burial of a Roman provincial.

Sigillata found its way to the dwellers in the Ayrshire crannogs; it occurs at Buston [No. 47], but the fragment is too small to be dated. At Lochspouts [No. 46] (fig. 1, no. 10), and at Lochlee [No. 45] it belongs to the second century, as it does at Aitnock [No. 42] and at Castlehill [No. 44], both native forts in the same county, where the pieces come from bowls of the later varieties of Type D. 18.

The find of a second-century Sigillata bowl in Glasgow [No. 49] must be noted. It is the only complete example from a non-Roman site that has survived, but as the line of the Antonine Wall runs only a short distance to the north, its presence offers no insoluble problem.

Of the finds from Argyll, the fragments found at Dunadd [No. 62] are too small to enable us to identify the vessels they came from. The piece of a decorated bowl, D. 37, from Ardifuair [No. 61] appears to be of second-century date (fig. 1, no. 11). The fragment recorded from Gallanach [No. 63] does not appear among the objects from this site in the National Museum.

In both of the instances where Sigillata has been noted in the Hebrides, the sites lie on the west coast, far out from the Roman occupied area. A single fragment was found in an earth-house at Bac Mhic Connain, Vallay, North Uist [No. 91]. A piece of the rim of a decorated bowl was picked up on Berie Sands, Traigh na Berie, Lewis [No. 89]. It had no doubt come from an earth-house, of which remains had been noted in the neighbourhood. Nothing seems to have been found on the west coast of Sutherland. "Its western half," as is noted in the *Inventory of Ancient Monuments* of that county, "from its mountainous and barren character is extremely unfavourable to the support of human life, and it need occasion no surprise that comparatively few traces of the occupation of prehistoric people are to be found in these unfertile districts."

From the Orkneys we have the record of a small fragment of Sigillata found in the East Broch, Island of Burray [No. 84], but the account gives no particulars. The Broch of Okstrow [No. 87] produced three pieces of a thick Sigillata bowl, Type D. 45, which show holes bored to mend it with leaden clasps. This bowl has an upright rim and usually a lion head mouthpiece. One of these lion heads was found at Traprain. This vessel is not represented at Newstead; it probably belongs to the latter part of the second century. From

the same broch came two pieces of an orange-red jar, and this orange-red pottery has also been found recently in the excavation of the Mid

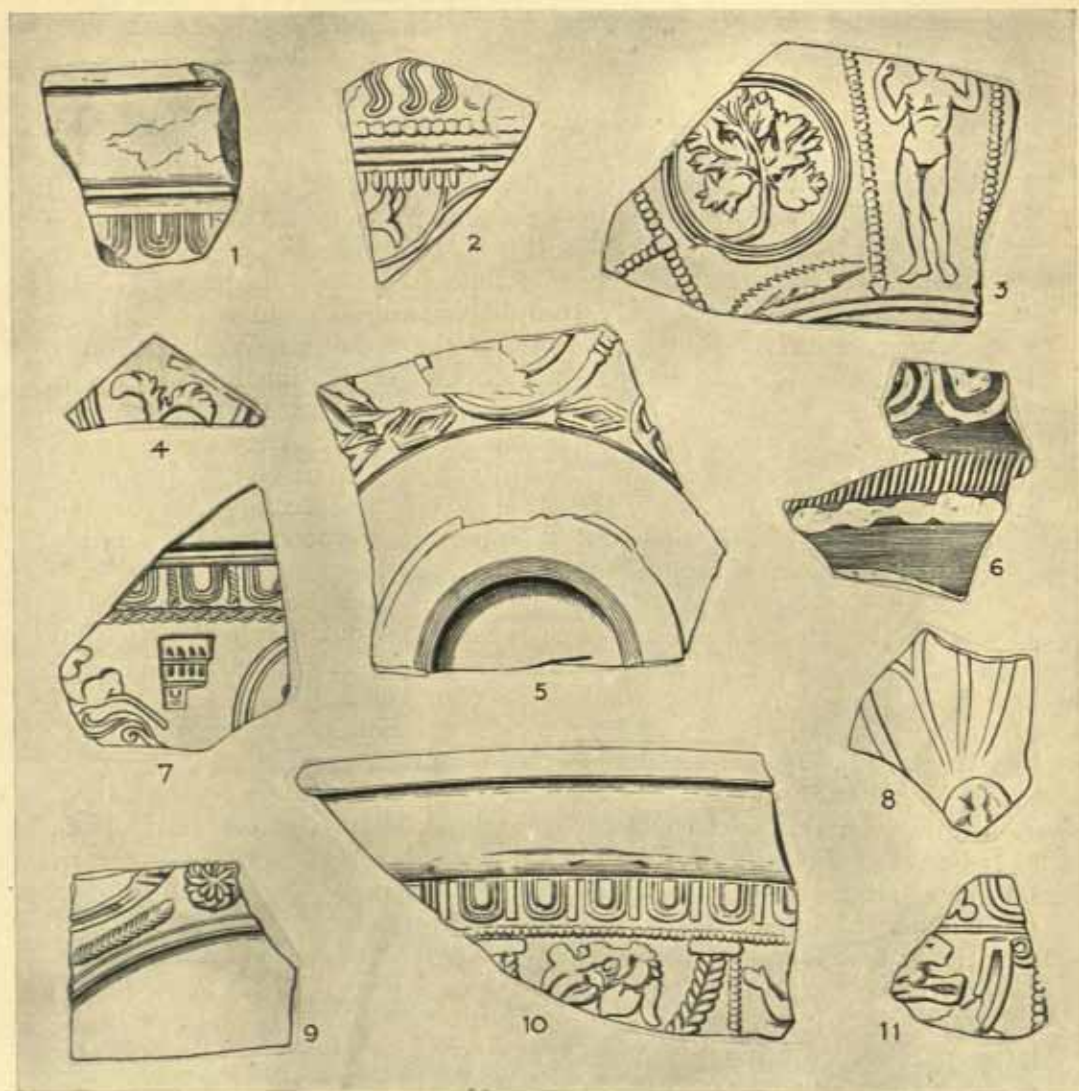


Fig. 1. Fragments of Pottery from various sites. (3.)

Howe Broch, Westness, Rousay [No. 86]. It seems probable that Roman trade had extended as far north as Orkney before the end of the second century, as denarii of Vespasian, Hadrian, and Pius, and two

coins of Crispina, were found in the outbuildings of the Broch of Lingrow.

Four Caithness brochs have produced Sigillata. The finds from the Everley Broch have already been indicated. At the Keiss Broch [No. 81] there were three fragments of decorated bowls, D. 37. The largest of these (fig. 1, no. 3), with its design arranged in panels and medallions, shows a single leaf placed upwards within a medallion and beneath it a navette-shaped ornament. In the panel on the right appears to be a figure of Venus. A second piece shows remains of large wreath decoration (fig. 1, no. 5). Both of these are evidently of the second century. A third piece is too much worn for identification. From this broch also came two pieces of a vase of thin white ware, covered with black slip and decorated with scrolls in a white engobe (fig. 1, no. 6). This appears to be Rhenish ware. It occurs in potters' kilns at Trier, where it is assigned to the third century.¹ It is also found at Wroxeter, where it is dated to the third or early fourth century. In the Road Broch at Keiss [No. 83] one small piece of a Sigillata bowl, D. 37, was found. The design is too fragmentary for identification.

From the Nybster Broch [No. 82] came a small piece, also of a bowl, D. 37 (fig. 1, no. 4), with part of a medallion, having what is possibly a double acanthus leaf in the centre—a common design, especially on East Gaulish pottery.

We have thus in this small group of Caithness brochs the evidence of Roman wares reaching the north of Scotland in the first century, and of the traffic which brought them being carried on as late as the third century.

Among the relics found in the Sculptor's Cave, Covesea, Moray [No. 75], were three much-worn pieces of rims of the bowl D. 37, and a fourth, also of a decorated bowl, its pattern indistinguishable, together with the rim of a polished wheel-made cooking-pot—all of second-century types.

So far there does not appear to be any record of Roman pottery from Aberdeenshire or Kincardine, but finds are recorded from five earth-houses in Angus. At West Grange of Conan, some five miles north-west of Arbroath [No. 71], pieces of an amphora were discovered. This is the most northerly point at which traces of this type of vessel have been noted. It is significant that the site lies near the coast. At Fithie [No. 66] the remains of a Lezoux bowl, D. 37, decorated with large medallions and panels in the style of Cinnamus, were found; and at Pitcur [No. 69], excavated in 1863, fragments of two Sigillata dishes (fig. 1, nos. 7 and 8),—both evidently Antonine.

From a second earth-house at Pitcur [No. 68], examined in 1878, a

¹ *Westdeutsche Zeitschrift*, vol. xv. p. 249, Pl. ix. fig. 6.

considerable portion of a large decorated bowl, D. 37 (fig. 66), of the second century, and fragments of two other bowls, were recovered.

Lastly, a find of Sigillata is recorded from an earth-house at Tealing, near Dundee [No. 70], and therefore within easy access from the Firth of Tay. Unfortunately, we have no more exact particulars of this find.

Fifeshire contributes three finds of Roman pottery. At Kinkell Cave, near St Andrews [No. 56], the excavators found the bottom of a Sigillata bowl (the shape is not recorded), with remains of a potter's stamp, as well as two pieces of pottery described as of ordinary reddish, rather thin Romano-British ware. At Constantine's Cave [No. 55], also on the coast, fragments described as of fairly fine red-surfaced Romano-British ware were found, and a great number of pieces of Roman amphoræ. Two of these were restored from the fragments, but the pieces indicated that there were probably three more of these vessels. On the handle of one was the stamp **PMSA**. Unfortunately, the relics found in these two caves, although deposited in a museum in St Andrews, can no longer be identified. At Largo Bay, on the shore of the Firth of Forth [No. 57], two pieces of a rather coarse ware resembling Sigillata were picked up. The glaze has disintegrated.

On the southern shore of the Firth of Forth, just at the mouth, we have the find of the neck and mouth of an amphora on the Ghegan rock at Seacliff, East Lothian [No. 11]. Pottery of second-century type occurs in the caves at Archerfield [No. 9], in the same county. A small piece of a decorated second-century bowl, D. 37 (fig. 1, no. 9), has been found recently at Granton Castle, on the shores of the Forth near Edinburgh [No. 3A]. A little higher up, finds of pottery have been made at Cramond, but that is undoubtedly a Roman site. The find, already referred to, of part of a dish having the stamp **ADIECTI·MA**, at Inchgarvie, in the parish of Dalmeny [No. 6], recorded in the *Statistical Account* (1791), carries the traffic line farther up the estuary towards the eastern end of the Vallum.

No find of Roman pottery is recorded from Berwickshire, but the recent excavation of a native fort at Camphouse, Edgerston, Roxburgh [No. 18], has brought to light pieces of at least three Sigillata dishes, including the late second-century cup Pudding Pan Rock, Type 3, and the rim of a black pan, which probably belongs to the same period. The presence of Roman pottery on this site may be accounted for by the fact that it lies at no great distance from the line of the Dere Street, which in Roman times formed the main line of communication with the South.

Lastly, among the comparatively few finds of pottery on inland sites may be mentioned the remains of amphoræ at the Broch of Bow, Midlothian [No. 1].

With the exception of the Keiss Broch in Caithness, Traprain [No. 13] is so far the only site in Scotland where pottery has been found which can be assigned to the third or fourth century. The quantity is considerable, and indicates a closer contact with the South than in the first century. The most characteristic import of this period is the Rhenish ware, both black and red, decorated with a white engobe. This has not been found among the sherds gathered from any of the fort sites in Scotland. There is also orange-red Sigillata, which can be identified as a late product of Rheinzabern. From the south of Britain come examples of Castor ware and red ware coated with pink slip, to which parallels can be found at Sandford, Oxfordshire, and Ashley Rails, New Forest. From the north of England there are blue-grey bowls, and fragments of large vessels of the same colour, with countersunk handles, products of the potteries at Crambeck, in Yorkshire, which were spreading their output widely over the north of England in the fourth century, and with these there are fragments of black-pitted ware, which is common in the late signal-stations on the Yorkshire coast.

TERRA-COTTA.

From the Broch of Dun an Iardhard, in the Isle of Skye [No. 92], comes a strange object, of terra-cotta (fig. 2), which may find a place here. It appears to represent a bale of goods securely corded. In Scotland it is unique, and I have not been able to find any other example elsewhere. The Countess Vincent Baillet de Latour, who carried out the excavation of the broch, states that it was found almost on the rock at the very lowest excavation level. Associated as it is with a primitive structure, and in the position in which it lay, it must be assigned to a comparatively early period, but it shows a skill in modelling which was beyond that of the native potters whose handicraft comes to light in the brochs. It was only in Italy or in the provincial world in the early centuries of our era that terra-cottas were being produced, and we are probably on safe ground in regarding it as Roman. Among the beads found was one of flat opaque yellow paste, a type which occurred at Traprain, and also in a necklace taken from a cist in Dalmeny Park in 1915, which includes among the beads strung upon it a piece of the hollow rim of a light grey-green Roman glass vessel. Such beads, though probably of native manufacture, have been found on native sites associated with Roman products. One can but speculate as to the origin of this curious find. The output of objects modelled in terra-cotta in the Roman provinces must have been large. Figures of the gods, children's toys, votive shrines and offerings came from Gaul and from

the Rhine. Many seem to have been made in Cologne, and the ex-votos were of various forms. It seems not improbable that the terra-cotta from Dun an Iardhard was carried by some trader adventuring among

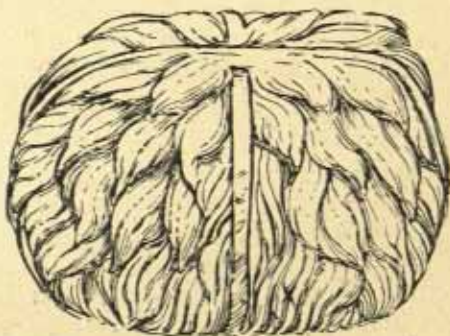


Fig. 2 a. Terra-cotta, Dun an Iardhard, Skye (side view). (1.)

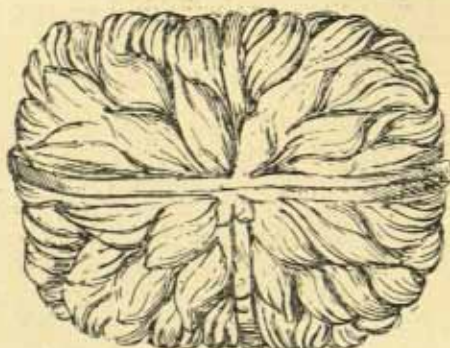


Fig. 2 b. Terra-cotta, Dun an Iardhard, Skye (top and end views). (1.)

the western isles, to be laid on the shrine of his protecting deity as an earnest of better things should the voyage bring fortune.

GLASS.

Roman glass came into Caledonia, though the finds are less numerous than those of pottery. Among the most characteristic importations were the large bottles of blue or green colour, with reeded handles. These are met with at Torwoodlee, Selkirkshire; at Castlehill Fort, Ayrshire; at Constantine's Cave, Fife; and at Traprain. A bottle of this class was found at Newstead¹ in Pit 15, in association with first-century pottery, but such things were no doubt in fashion for a considerable time. At Torwoodlee, where again there is association with first-century Sigillata, the bottles occur, and with them fragments of one

¹ Curle, *A Roman Frontier Post*, p. 271 (cited as Newstead).

or more shallow bowls of amber-coloured glass, the edges turned over in the making so as to form a hollow rim (fig. 52). This type of rim in amber-coloured glass was found at Newstead in Pit 55, which probably dates from the first century.¹ A fragment of one of these hollow rims has been picked up on the Culbin Sands, Moray [No. 76], and others at Hyndford, Lanark, and in the Everley Broch, Caithness, in both instances associated with first-century pottery. To the same period we may perhaps assign a small piece of a pillar-moulded cup of glass, imitating agate, found at Traprain. It is translucent, of a dark brownish colour in which yellow threads are embedded.

It is seldom that glass vessels have survived except in cases where they have been associated with burials, and the number of Roman graves which have come to light in Scotland is very small. It is therefore all the more remarkable that the glass bottle (fig. 67) found near Turriff, Aberdeenshire [No. 72], should have been preserved. It belongs to a type which was in use on the Rhine at the end of the first century.² A portion of the neck of a similar bottle was found at Newstead. Part of a yellow-green bottle, which appears to belong to the same class, comes from Traprain. A portion of a vessel found at Traprain is of greenish transparency, and is decorated with fine rods of glass of the same colour applied to the outer surface horizontally and obliquely (fig. 43). It possibly belongs to the second century.

Among the later importations of Roman glass which came into the North were the small circular cups of clear white glass, of which an undamaged example (fig. 3) was found in a cist at Airlie, in Angus [No. 65], and a second, now unfortunately broken, from Westray, Orkney [No. 88]; we have, further, the record of a third cup, probably of this type, now lost, from Kingoldrum, Angus [No. 67]. Similar cups are found in Iron Age graves in Denmark. Among these is an example found at Bavenhoe, in the island of Seeland.

In Scandinavia and in Denmark the late survival of pagan customs has been the means of preserving for us in graves many fragile objects which otherwise would have perished. Of such survivals none are more remarkable than the vessels of glass. In Denmark, not only have cups of plain glass been found, but a number have come to light painted with coloured representations of birds or scenes from the circus. Professor Almgren in his catalogue of northern glass finds, published in 1908, cites nine examples of painted cups, all from Denmark.³ No doubt they were used for wine or other liquid. A

¹ Newstead, p. 272.

² Hettner, *Führer durch das Provinzial Museum in Trier*, p. 107, No. 5.

³ Kisa, *Das Glas im Altertume*, Band iii, p. 905.

cup from Varpley, in Seeland, bears the inscription D.V.B.P., which has been expanded 'Da Vinum Bonum Pie (Zeses),' a common greeting in the end of the third or beginning of the fourth century. Two such cups were found in 1881, in a cemetery at Nordrup Mark, also in Seeland. Both show painted figures, which are fixed by being burnt into the surface of clear glass. In one of them a blue leopard follows a hind, and behind it stalks a dark yellow tiger. In the other (fig. 4) a bestiarius is seen with a bear, a bull, and a lion springing on a hind. In both there is a border, forming a margin to the decorative zone, composed of groups of dots and dashes of colour, light yellow



Fig. 3. Glass Cup from Airlie, Angus. (j.)

and dark red alternating, while between the animals are clusters of dots, nine in number, forming a circle with a dot in the centre, and here also the colours alternate, dark red and yellow.

Kisa,¹ reviewing this group of vessels, points out that they show so little difference in style and technique that it is scarcely possible to doubt their common origin. They must originate from one region, though scarcely perhaps from one workshop, since, despite their family relationship, they divide themselves into two groups. In one, the figures show more modelling, and shading is employed as a painter would use it. In the other, a strong outline is substituted for modelling, more in the style of a draughtsman. The same distinction is noted in the treatment of details. In one group, rows of single dots form the boundary of the painted frieze, and hearts are employed to fill the spaces intervening between the figures. In the other, there are groupings of round and oval

¹ *Op. cit.*, p. 830.

dots and long and transverse streaks, while rosettes and other forms fill the interspaces. Both varieties derive their origin from barbotine. Without barbotine it would be impossible to conceive this class of painting, and it is still more necessary to presuppose a knowledge of the Rhenish glass-engraving of the third century. He considers the vessels to be examples of Rhenish glass-painting, of which only a few badly preserved specimens have come to light in the country of their



Fig. 4. Painted Glass Cup, Nordrup Mark, Denmark.

origin. The cups were probably made in the third or fourth century. No example seems to have been hitherto noted in Britain. But among the objects found at Traprain in 1914 is a small piece of clear white glass, roughly triangular in shape (fig. 5, no. 1). Along the base is a band of pale blue colour; above it in parallel lines are five narrow bands of alternating dull red and light orange-yellow. This is exactly the treatment derived from barbotine. There can be no doubt that the fragment came from a painted cup similar to those found at Nordrup Mark. The identification is further confirmed by a small fragment of the rim of another glass cup recently found by Mr Eric Birley, during excavations in the *vicus*, outside the fort of Housesteads, which he has kindly allowed me to reproduce here (fig. 5, no. 2). This fragment shows the

same barbotine tradition. Here also we have the line of dots which defines the upper margin of the band of decoration alternating in red and yellow colour.

Two other fragments from Traprain indicate the presence of com-



Fig. 5. Fragments of Painted Glass from Traprain, East Lothian, and Housesteads, Northumberland. (l.)

paratively late glass vessels. They are both pieces of greenish-coloured glass, having each of them an embedded spot of blue glass. They probably formed part of bowls decorated with bosses or groups of spots of a colour different from that of the ground. An example of



Fig. 6. Engraved Glass, Traprain, East Lothian. (l.)

these bowls was found in the Gallo-Roman cemetery at Strasbourg, in a grave with a burial by inhumation. In this cemetery there were no traces of Sigillata, and the pottery, which is much coarser and less attractive than the glass, belongs to the first half of the fourth century.¹ The excavations at Traprain in 1915 also brought to light a piece of glass, described as of crystal-like purity, showing the lip and part of the side of a beaker or cup (fig. 6). Around the rim is a series of parallel bands of engraved lines, while rising from the edge of the lower fracture is a human head in profile. On

either side of the head are traces of decoration, including circles containing dots, the whole executed by wheel-engraving. The Strasbourg cemetery just referred to contained a glass cup engraved with Moses striking the Rock, and the Sacrifice of Isaac.² The Traprain fragment seems to have belonged to a somewhat similar vessel, and it is evident that the circles employed as a decorative feature are again merely the reproduction of barbotine treatment. The close relation between

¹ A. Straub, *Le cimetière gallo-romain de Strasbourg*, 1881, p. 2, Pl. v. fig. 3.

² Straub, *op. cit.*, Pl. ii.

the two forms of decoration may be seen in a cup from Cologne figured by Kisa.¹

In addition to the glass described, Aberdeenshire furnishes two somewhat unusual groups. The first of these is from a burial at Cairnhill, Monquhitter [No. 73], where among other objects were two oval glass pastes (fig. 7). One is a piece of glass of a brownish colour, having



Fig. 7. Glass Objects, Cairnhill, Monquhitter, Aberdeenshire. (†.)

a raised border of a pale milky blue, as if it had been formed from the upper layer of a sardonyx. In the centre is a finely engraved figure of a faun. The other is a medallion of glass, put together in three layers, a white layer between two of black. Both intaglios and cameos were frequently imitated in glass.² No doubt these pieces were intended to be mounted in metal settings, and to form parts of ornaments. A series of glass cameos, with white figures on a dark blue ground, was found in one of the buildings of the legionary fortress at Mainz, which suggests that the wearing of such ornaments was not confined to women. The medallions had been formed with rings so that they might

¹ *Op. cit.*, p. 551, fig. 246.

² Froehner, *La Verrerie Antique*, p. 104, Pl. xi.

be worn as a necklace.¹ They are, however, probably earlier than the Monquhitter find. With the glass pastes were found a large bead-shaped piece of glass imitating agate (fig. 7), flattened on one side, an unusual object to which we do not appear to have any parallel, a piece of an armlet, and two balls of green glass about the size of small marbles, ornamented with inlaid white spirals. Such glass balls occur also at Traprain, at the Buston Crannog, the Mote of Mark, and on other sites.² They are probably of native manufacture. Froehner³ mentions the use of glass balls *vitrea pila*, for playing a game, in vogue in the reign of Hadrian, and they may have been used for this purpose. Undoubtedly in the native dwellings as on the military sites people must have whiled away their time over games. At Traprain there are no fewer than fifteen small discs manufactured from Sigillata vessels, as well as pieces of glass and numerous polished pebbles which must have served as pieces.

The objects found in the second Aberdeenshire group were undoubtedly playing-men. They were discovered with a burial at Waulkmill, Tarland [No. 74] (fig. 68). We have no example in this country of a complete set of these pieces, but here we have two varieties which may possibly have been used to distinguish the men of the two players. Six are of quartzite. The other pieces were two complete, and two fragmentary, of dark blue translucent glass, and two of mosaic glass, blending threads of greenish-blue, yellow, and brown colour. In the find from Nordrup Mark, already mentioned, forty-one playing-men were discovered. Eighteen of these were of red and twenty-three of mosaic glass. Professor Almgren⁴ assigns the first appearance of such pieces to the third and fourth centuries, and cites examples found in Denmark and Scandinavia. It seems probable that the Waulkmill pieces, which differ from the somewhat smaller discs of opaque vitreous paste common on the sites of forts, belong to the same late period.

A characteristic feature among the finds from Roman forts in Scotland is the occurrence of melon-shaped beads of dark blue or green glass, or sometimes of a paler blue vitreous paste; they were common at Newstead. In the sites mentioned in the inventory we find them in the native forts at Camphouse, Roxburghshire, and Castlehill, Ayrshire; in the crannogs at Dowalton Loch, Lochspouts, Lochlee, and Hyndford. In addition to these there are single examples in the National Museum from Galdenach Farm, Glenluce; from Holywell, Harelaw Moor (Berwickshire), Birse (Aberdeenshire), Burghead (Moray), the Isle of Skye, and Sandwick, Orkney.

¹ *Germania*, vol. iv, p. 78.

² *Op. cit.*, p. 103.

³ *Proc.*, vol. xlix, p. 41.

⁴ *Kisa, op. cit.*, p. 919.

BRONZE VESSELS.

The number of bronze vessels recorded is considerable. Including those that are incomplete there must be not less than fifty-two examples.



Fig. 8. Bronze Handle, Cairnholly, Kirkeudbright.

With the exception of one find in Perthshire, one in Sutherland, and one in Orkney, representing ten dishes in all, they come from the country south of the Antonine Vallum.

The pateræ form the largest group, but there are also the enamelled

skillet from West Lothian, which stands in a class by itself; jugs, ladles, and strainers; bowls and shallow pans; cauldrons and a single camp kettle.

Finds of three jugs are noted, two are incomplete and one almost undamaged, all with decorated handles. The earliest of these, represented only by a very beautiful handle, was found at Cairnholly, Kirkcudbrightshire [No. 36] (fig. 8). The handle terminates at the lower end in a head of the Medusa. In this it resembles the fine Campanian jug found in Pit No. 57 in the Baths at Newstead,¹ which was assigned to the first century, and it probably belongs to the same period. The face has been plated with silver; the plating is still to be seen on the eyes and a small patch remains on the nose. It seems evident that the incisions to be noted on each cheek as well as on the chin were designed to key the silver plating to the bronze. The Medusa head is common on the handles of similar vessels found at Pompeii,² which must be earlier than A.D. 79. The jug from Sadlerhead, Lanarkshire [No. 53] (fig. 9), and the incomplete example from Ruberslaw, Roxburghshire, are probably importations of the second century. In both, the Medusa head is replaced by figures. In the Sadlerhead example a female figure stands beside a pedestal or altar, a bird resting on her right hand. The modelling and execution is much better than that of the Ruberslaw handle, which terminates with a figure of a dwarf. Many examples of these jugs might be cited, but few of them appear to have been found associated with datable material. There is, however, a group of eleven bronze vessels found at Rheinzabern, which included a jug of the Sadlerhead type. With it was some Sigillata pottery, including part of a platter with the stamp of the potter Verus, who worked at Rheinzabern in the Antonine period or later. The stamp, however, cannot be altogether relied upon as fixing the date, as the life of bronze vessels was no doubt much longer than that of pottery.³

Seventeen finds of pateræ are noted, though in some cases all that remains is the handle. All of them come from the area south of the Antonine Wall. One patera had found its way into the hands of the lake-dwellers at Dowalton Loch, in Wigtownshire [No. 39] (fig. 10). It came from the foundry of P. Cippius Polibius, and there can be little doubt that the pair of pateræ found at Friars Carse in Dumfriesshire [No. 33] in 1790, and now lost, one of which bore the stamp of the maker, L. Ansius Epaphroditus, was also found in a crannog. A second example from the foundry of Cippius Polibius was found at

¹ Newstead, Plate lvi.

² Schreiber, *Alexandrinische Toreutik*, p. 345.

³ *Westdeutsche Zeitschrift*, vol. i, p. 469, Taf. VII.

Barochan near Paisley [No. 54]. Two brass or copper vessels, presumably pateræ, bearing a maker's stamp (Congallus or Convallus), are recorded as having been found in 1793 at Gallowflat, Rutherglen

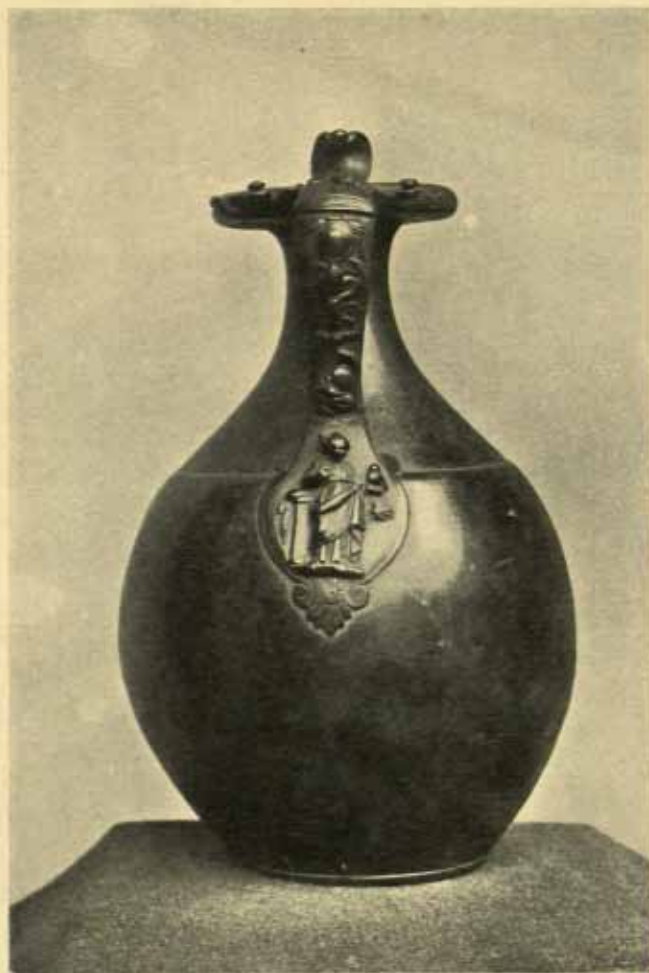


Fig. 9. Bronze Jug, Sadlerhead, Lanarkshire.

[No. 48^a]; both are lost. The wares of P. Cippius Polibius and those of L. Ansius Epaphroditus are more widely spread over Europe than those of any other Italian bronze founders. The stamps of both occur at Pompeii. Their work, therefore, belongs to the first century, and the Dowalton Loch patera is in such perfect condition that it cannot have been in use for any length of time before it was lost. No other

example of Congallus or Convallus appears to be known. A patera found at Crailing, Roxburghshire [No. 23], in close proximity to the line of the Dere Street, closely resembles Italian types, and possibly



Fig. 10. Bronze Patera, Dowalton Loch, Kirkcudbright. (J.)



Fig. 11. Ring Handle attached to Patera from Dowalton Loch. (J.)

also belongs to the first century. On the other hand, the pateræ from Whitehill [No. 17] (fig. 12, no. 1), Blackburn Mill (Cockburnspath) [No. 14] (fig. 12, no. 2), and Lamberton Moor (Berwickshire) [No. 16] (fig. 48), from Ruberslaw (Roxburghshire) [No. 24] (fig. 50), and Longfaugh, Crichton (Midlothian) [No. 5] (fig. 40), as also the handle of one of these vessels found in East Lothian [No. 10], which have been carefully studied by Mr R. C. Bosanquet,¹ are assigned by him to the second

¹ *Proc.*, vol. lxii. p. 246.

century as representing the type of saucepan that was being imported into Scotland in the Antonine period. The patera discovered at Stanhope in Peeblesshire [No. 28] is interesting from its associations. It was found high up on a hillside with one of these massive bronze armlets of Late Celtic style, more common in North-eastern Scotland, but peculiar to the Scottish area, and with an object, probably a harness mounting, of the same period. Possibly the dish came from the fort at Lyne, which lay some twelve miles distant, but the armlet and mounting associated with it point to its having been in native hands when lost.

Both at Lamberton Moor, Berwickshire, and at Ruberslaw, the



Fig. 12. Bronze Pateræ, No. 1, Blackburn Mill; No. 2, Whitehill, Berwickshire.

pateræ are accompanied by other dishes. On the first of these sites there were remains of four such vessels, with four bowls of beaten bronze. A bronze beaded neck-ring found with them probably indicates that they were in native possession (fig. 48, no. 1). The Ruberslaw hoard (fig. 50) included two pateræ—one showing the common thyrsus design on the handle, the other plain; at least two round shallow pans; and the jug with a decorated handle, already mentioned. The occurrence of blocks of stone used in the construction of the rampart of the native fort on the top of the hill, showing typical diamond broaching, indicates that a Roman building, perhaps a watch-tower, may have once occupied the site.

In the National Collection there is a single handle of a comparatively shallow hemispherical skillet found in Annandale [No. 30] (fig. 13). No information about the find has been preserved. The handle terminates in the head of a powerful hound; round its neck is a collar of silver, and silver palmette decoration is to be seen at the point where

the handle joined the side of the vessel. This type of dish appears early in the first century at Haltern, where there is an example of a handle terminating in a ram's head. It was probably a sacrificial vessel. We find one in association with a bronze jug in the hoard from Santon Downham, Suffolk, assigned by Mr Reginald Smith to the Claudian period.¹ Another handle, terminating in a ram's head, was found in a pit at Richborough with articles deposited during the late Claudian or Neronian to Early Flavian period.² The handle is the only trace of this type of vessel found in Scotland. It seems probable that it is a relic of the Agricolaan occupation.

The enamelled skillet from West Lothian—the precise locality of the find is unknown—[No. 8] (fig. 14) is unique in Scotland. It belongs to a class of *champlevé* enamelled work which occurs both in Britain



Fig. 13. Handle of Patera from Annandale.

and on the Continent. In it, the surface of the metal which is to form the design is left in relief, while the rest of the field, cut down to a lower plane, is filled with enamel, making a bright-coloured background, and heightening by contrasting colours the effect of the pattern employed. In the ornamentation of the side of the skillet there are three main features in the design (fig. 15, no. 1). First, in the upper zone a simple wreath, an unbroken stem with small leaves issuing from it on either side. Second, a much more elaborate wavy scroll, in which the main element is a long, pointed leaf. Third, a band of vandyked ornament. The long, pointed leaves of the scroll and the horizontal bands of metal which define the upper and the middle zones have serrated edges. The colours employed to form the background are dark blue, green and red. These characteristic features connect our bowl closely with two other examples. First, a bowl found at Braughing, in Hertfordshire,³ where there are the same elements in the

¹ *Cambridge Antiquarian Society's Communications*, vol. xiii. p. 146.

² *Richborough Second Report*, 1928, p. 31, Pl. xiv.

³ *Proc. Soc. Antiq. Lond.*, 2nd series, vol. iv. p. 514.

design (fig. 15, no. 2)—the simple wreath in the upper zone, below it the more elaborate wavy scroll, and lower still the line of vandyked pattern and also the serrated edges. The colours are blue and green. Secondly, a bowl found at Maltboek, in Denmark, where the colours appear to be green and red, in which the same features in design and technique are repeated (fig. 15, no. 3).¹ All of these have so many features in common that it is evident they belong to the same period, and were probably produced in the same area. With none of these three



Fig. 14. Bronze Skillet decorated with Champlévé Enamel, West Lothian.

vessels is there any associated find which enables us to date it. But the West Lothian skillet is clearly related to two other continental examples which can be approximately dated. The first of these is the enamelled vessel found at Pymont, in Lippe Detmold, now in the Museum of Arolsen. It differs in design from our example in that the side, instead of being decorated in zones, shows a series of pentagonal panels, each having a border of scrolls, while in the centre of each panel, and again in the smaller triangular spaces which alternate with them, are long, pointed leaves, which recur on the handle, though here the treatment of the design in a measure differs from that of the handle of our skillet. The Pymont dish was found in clearing out a well; from it there were brought to the surface over 200 fibulae and coins of Domitian,

¹ *Mémoires des Antiquaires du Nord*, 1866-71, p. 151.

Trajan, and Caracalla, the last of these dating from A.D. 218. The Pymont vessel again is closely related to a bowl, found in 1905 in a Roman tomb in a cemetery at La Plante, Namur,¹ which has the same pentagonal panels with an outer border of scrolls, and in the triangular panels the pointed leaf. The cemetery at La Plante is assigned to the second century.

That the use of enamel for the decoration of such vessels was not confined to the western provinces or to Britain is shown by the find of an enamelled flask or pilgrim bottle at Pinguente, in Istria, now in Vienna. This flask was found in association with coins of Hadrian.²

Looking at the skillet from West Lothian and the Braughing and Maltboek vessels, we are reminded of the Sigillata bowls of the Claudian

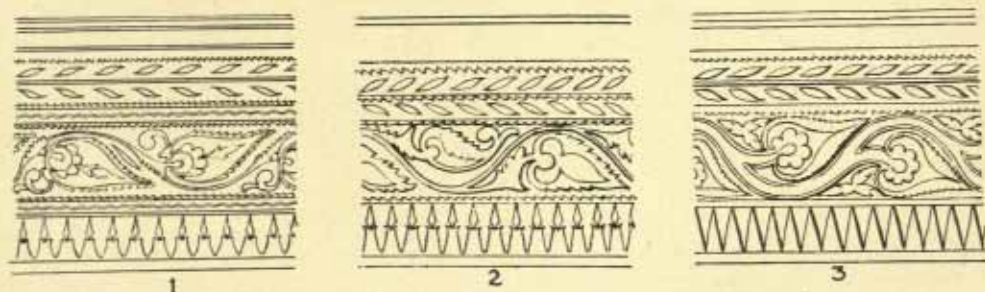


Fig. 15. Details of ornamentation of Enamelled Vessels.

period with their wreath decoration. These, no doubt, could trace their ancestry to the chalices produced by the potters of Arretium, and those again, it seems clear, were a cheap substitute for silver.

In the second century, as the potteries pushed northward towards the frontier, their products deteriorated in design and in technique. The Sigillata bowls of that period could not have inspired the makers of these enamelled vessels. On the other hand, there is no reason to suppose that the work of the silversmith, which appealed to a higher class and demanded for its execution skill in design as well as in handicraft, underwent any corresponding deterioration. Silver skillets were certainly in use in the first and second centuries. Numerous examples found in Italy and throughout the Roman provinces are noted by Schreiber.³ Among such finds is the skillet from Backworth, Northumberland, dedicated to the *Dæ Matres*. It must have been in use in a temple in the second century. It was found with a hoard of

¹ *Annales de Namur*, vol. xxvi, p. 3.

² Riegl, *Spätromische Kunst Industrie*, Vienna, 1929, p. 353.

³ *Alexandrinische Toreutik*, p. 345.

290 coins, the latest of which was struck in the year A.D. 139.¹ There is a close resemblance in shape between it and our Scottish find. As in the case of most of the examples described by Schreiber, the handle is covered with ornament but the sides are plain. On one or two of these vessels a series of figures forms a frieze round the body, but while gilding was employed to heighten the effect, I have not found any instance in which a silver skillet was enriched with enamel. It seems not improbable that the craftsmen who produced the West Lothian skillet and the analogous vessels copied a silver model, aiming to produce in less costly material a richly decorated vessel which would vie with plate, and that in enriching the surface with champlevé enamel they drew their inspiration from glass. The glass-workers had attained to a wonderful degree of skill, and great sums were lavished on their finest products. There was no pottery in the Roman world to vie with them in richness of colouring and in beauty of design, which reached its highest excellence in that cameo glass of which the Portland and the Auldjo vases, both in the British Museum, are outstanding examples. The cutting away of the superimposed layer of opaque white or other colour to leave the design standing in relief on its dark blue background was a slow and costly process, and the vase itself remained a fragile treasure, so fragile, indeed, that very few of them have come down to us, although they must have reached the provinces; one, at least, drifted as far as Norway, where the broken pieces found show a human figure in opaque white against a dark blue background.² By the use of enamel the craftsman could decorate his strong, serviceable copper vessel, making it glow with a richness of colouring only to be attained in the most costly glass.

The potters have left behind them their kilns and the debris of their output, from which we can trace the sources whence their wares were exported throughout the western empire, we have no such evidence to enable us to trace the provenance of these enamelled vessels. But, as already pointed out, the relationship between the West Lothian skillet, the Braughing cup, and continental examples is so close that they must all have come from some common source. It would appear that there was in the second century either an export of enamel work from Britain to the Continent, or that the Continent was sending its products to Britain. In the period which preceded the coming of the Romans, enamel-working in Britain had reached a high state of perfection, and no doubt both here and on the Continent the art adapted itself to new designs under Roman influence. It seems plain that in

¹ *B.M. Guide*, "Roman Britain," fig. 77.

² Kisa, *Das Glas im Altertume*, p. 908, fig. 381.

the second century enamelling was still employed in Britain, especially in the decoration of small ornaments, but, on the whole, the evidence of enamel-working on an extensive scale seems more definite in this period on the Continent than in Britain. We have no parallel in this country to the finds in the cemeteries round Namur at Flavion, and Villées, and the remains of crucibles, enamel, tools, and furnaces at the Villa of Anthée, though it must be admitted that no evidence has been found to show that the enamellers of this region could have produced such work as we find on our skilnet and the vessels associated with it. Many Roman objects which must have come from Italy, Gaul, or the Rhineland drifted across the frontier, like the Maltboek bowl,

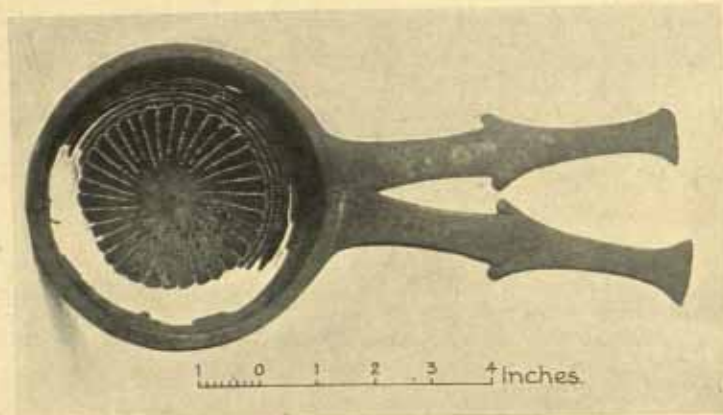


Fig. 16. Ladle and Colander, Glenshee, Perthshire.

to Denmark and farther north. In the same way bronze vessels came to Britain from Italy, pottery from Gaul, and pottery and glass from the Rhine, but there is little evidence in the second century of the export of articles made in Britain to the Continent. On the whole, such evidence as we have seems to point to a continental origin for our group of vessels, and to suggest that they were made in the country lying to the south of the Rhine.

A bronze ladle with a perforated colander (fig. 16) was presented to the National Museum in 1887. It is described as having been found in Glenshee, Perthshire [No. 64]. All that remains of the ladle is the rim and handle, but the colander is comparatively well preserved. A second set in the National Museum, of which only the rims and handles are preserved, was found near Lanark [No. 52]. A single example of a ladle, the colander being absent, has recently been found in the Mid Howe Broch, Westness, Rousay, Orkney [No. 86]. The only other example of this class of vessel is a colander in the hoard of

bronze vessels from Helmsdale, to be noted later. Ladles and sieves, like the pair from Glenshee, with undecorated handles were not only in common use throughout the provinces, but they also made their way, like many other Roman products, as far north as Sweden, where a well-preserved pair was found at Öremölla, on the south coast of Skåne, with a large bronze bowl and two glass cups, associated with a cremated burial. They were in use in the Augustan period, and, with some change in the outline of the bowl, continue to about the middle of the second century.¹ They appear to have been used for serving wine or other fermented drink. The same association observed in the Öremölla find was noted in a grave which was very carefully excavated at Juellinge, Lolland, Denmark, in 1909. Here the body of a woman had been buried holding a long-handled colander in her hand; at some little distance from the head lay the remains of two glass cups, decorated with faceted ovals, as well as two drinking-horns and a little box containing her needle and her shears; beside these lay the remains of a large bronze vessel, in the interior of which had been placed the ladle forming a pair with the colander. An analysis of a deposit on the bottom of the bronze vessel proved it to be the dried residue of some fermented drink. It had been made from rye, flavoured with berries. The presence of the cranberry, the bilberry, and the whortleberry was detected, as well as the leaves of the bog-myrtle. With such a mixture the need for a strainer is obvious.²

At Newstead, the bronze vessels which occurred most frequently were ovoid or cylindrical pails, with everted rims which served to hold in position an iron collar, to which the handle was attached. Several of these bore the names of their owners, and there seems little doubt that they were the soldiers' camp kettles. They were found, one in the ditch of the early fort, and others in pits which, either from their position or their contents, appeared to belong to the first century. Two such metal pots were found in 1865 in Barean Loch, Kirkeudbrightshire [No. 34], very probably on the site of a lake-dwelling. One of them is now in the National Museum (fig. 55). It is of the ovoid type, 5 inches in height, and on the bottom is a series of cuts with a knife-point, which doubtless was intended to ensure its identification. The type seems to be of Italian origin—it is found at Pompeii—and to have been carried with other wares of southern bronze-workers to the lake-dwellers of La Tène. Déchelette figures an example from Dobricor in Bohemia,³ while Willers illustrates examples from Westerwanna in

¹ Willers, *Neue Untersuchungen über die römische Bronzeindustrie*, p. 83.

² *Nordiske Fortidsminder*, vol. ii., Pl. i.

³ *Manuel d'archéologie Préhistorique*, vol. ii., part iii., figs. 649-52.

Hanover, Korchow, Mecklenburg, and Mehrum in the Rhineland. Closely allied to these vessels are the cauldrons, of which examples containing iron tools occurred at Blackburn Mill and at Carlingwark Loch. These are mentioned later.

Shallow pans or basins are noted at Dowalton Loch [No. 39], where three were found in association with the fine Campanian patera already



Fig. 17. Bronze Vessels from Helmsdale, Sutherland.

referred to. One of them is much patched. It cannot be claimed that they have any typically Roman characteristics, but a shallow pan of somewhat similar type does occur at Ruberslaw, again with undoubtedly Roman dishes. The largest find of such vessels comes from Helmsdale in Sutherland [No. 79], where we have a group of seven shallow basins or bowls,¹ two of them being colanders (fig. 17). One of these is small; the handle has disappeared, but it is probable that it resembled the example from Glenshee. The other is a very unusual vessel. It is circular, measuring 9½ inches in diameter, and has a broad flat rim, decorated with a series of double chevrons punched upon it, while

¹ One of the bowls, in very fragile condition, is not included in this illustration.

the interior, which measures 6 inches in diameter, is perforated with holes forming in the middle a rosette, and around it a double series of scrolls. The dish was probably intended to be used with one of the other bowls, its broad rim resting on that of the vessel placed beneath it.

It is difficult in the absence of parallel finds to suggest a date for this hoard. Obviously the shallow vessels are of a type which might be in fashion for a long time. The small colander is, unfortunately, imperfect. Its original handle seems to have been broken off and a new handle substituted; four rivets which fixed it still remain. The bowl may be regarded as belonging to the type of colander which was in vogue up to about A.D. 150; after that date, according to Willers, the hemispherical bowl gave place to a flat-bottomed shape. The life of a bronze vessel might be lengthy, but such colanders were very thin, and probably did not stand much tear and wear. It is probable that this vessel belongs to the second century. On the other hand, no example of a colander resembling the larger dish has been found in Scotland, nor have inquiries in France or Germany produced any other example.

A somewhat similar find to that from Helmsdale occurred at Irchester, in Northamptonshire—a Roman site. In 1873 ironstone diggers broke into a cemetery there. In one of the graves eight bronze vessels—shallow bowls, strainers, etc.—were found packed into a bucket, one inside the other. No evidence of the date of the graves was obtained, but they appear to have been late Roman or possibly “early English.”¹ The Irchester strainer is a vessel with a comparatively short handle, and appears to have a diameter of about 5½ inches. It is therefore rather larger than the colander of the common Roman type, with comparatively small bowl, found at Glenshee. Examples of larger colanders occur on native sites. A sieve in bronze, its perforations in the form of a Greek key pattern, with a short handle, from Flonheim, now in the Paulus Museum, Worms, is ascribed to the La Tène period.² From Wales there is an example of a Roman patera of tinned bronze, said to have been found with coins of Carausius at Kyngadle, in the parish of Llansadarn, Carmarthenshire, which is fitted with a false bottom cut out in a *triskele* pattern, and with it a strainer, measuring about 4½ inches in diameter, which Dr Wheeler³ regards as a modification of a Roman type by a native craftsman. It seems probable that the strainer, which is incomplete, had a broad flat rim.⁴ Mr Bosanquet calls my attention to one other strainer of this character, found in a crannog at Moylarg,

¹ *V.C.H. Northamptonshire*, p. 183.

² *Westdeutsche Zeitschrift*, vol. viii. p. 200.

³ *Prehistoric and Roman Wales*, p. 216.

⁴ *Archæologia Cambrensis*, 1901, p. 24.

County Antrim, apparently a large vessel, with a long handle, the bottom being perforated with a *triskele* design.¹

Although nothing was found with the Helmsdale vessels, either to help to date them or to show where they came from, the decorative pattern of the colander, with its rosette and surrounding scrolls, clearly indicates Roman influence. But the form of the dish is quite distinct from that of the colanders which came from Campanian founders in the first century, or were copied somewhat later in the provinces. While the small colander may have been an old dish patched up, it seems not improbable that the large colander and the rest of the group that accompanies it belong to the third century.

Three large bronze vessels have been found to which we may apply the term cauldron. The largest of these came from the bottom of Carlingwark Loch, Kirkcudbrightshire [No. 37]. Two smaller vessels were found at Blackburn Mill, Berwickshire [No. 14], one inside the other. In both cases the vessels contained a miscellaneous collection of tools and objects of bronze and iron. To these I shall return later.

When the Carlingwark cauldron was dredged up from the bottom of the loch it was shining like gold. Its discoverers thought it had been left by Edward I., but there can be no doubt that it dates back to a far more remote period, and that it must have belonged to the dwellers in the the crannogs, of which many remains were uncovered during the draining of the loch. The cauldron itself (fig. 18), hemispherical in form, with a vertical collar $8\frac{1}{2}$ inches in height, is of a well-known type, of which we have examples in England from Santon Downham, Suffolk, and Baschurch, Shropshire, but they are widely distributed on the Continent. They have been found as far north as Denmark, and Willers illustrates specimens from Hemmoor, Hanover, and Korchow in Mecklenburg. He takes the view that they come from the South, either from Italy or the country behind Aquileia.² The iron rim and ring handles, which are a common feature of these vessels, are still to be seen on the Santon Downham cauldron, but they have disappeared from the Carlingwark example. On either side of its collar, however, there are applied patches of metal 8 by $8\frac{1}{4}$ inches—no doubt designed to strengthen the sides at the points where the handles were attached. The use of cauldrons goes back in Britain as well as in Ireland to a very early period. Although the Carlingwark vessel differs in many ways from the cauldrons which were in use at the end of the Bronze Age or beginning of the Iron Age, the type to which it belongs must have remained long in vogue. The Santon Downham cauldron was notable for its contents. Celtic

¹ Joyce, *Social History of Ancient Ireland*, vol. ii. p. 117.

² *Neue Untersuchungen über die römische Bronzeindustrie*, p. 13, figs. 9 and 10.

objects, such as enamelled horse-trappings, were mingled with Roman products. Among these were brooches which dated the find to about the middle of the first century.¹ The same type of cauldron is to be seen with the group of bronze vessels and pottery, already referred to, found at Rheinzabern, which appears to belong to the second century;²



Fig. 18. Bronze Cauldron, Carlingwark Loch, Kirkcudbright.

while in 1926 there was discovered at Filzen, on the Moselle, another of these cauldrons with a number of dishes designated as late Roman, which may mean third or fourth century.

There is an interesting feature of similarity between the Carlingwark find and the two German finds just mentioned. At Carlingwark the cauldron was accompanied by a gridiron (fig. 19) and a tripod (fig. 20) for placing a pot on the fire. At Rheinzabern the gridiron and the tripod accompanied the larger vessel, and with it were a ladle and colander,

¹ *Cambridge Antiquarian Society's Communications*, vol. xiii, p. 146.

² *Westdeutsche Zeitschrift*, vol. i, p. 409, Taf. VII. and VIII.

a pail, a jug with a decorated handle, and a number of smaller vessels for containing liquids. The find from Filzen included with the cauldron a gridiron, a number of ladles and colanders, and bronze dishes for holding liquids, together with an iron axe, a scythe-hammer, a mower's anvil, and whetstones.¹ Dr Steiner in a short notice on the Filzen find expresses the opinion that we have here the belongings of people who were accustomed to gather herbs for the purpose of making some decoction—a beverage or possibly a medicinal drink. On a relief in the British Museum the use of such cauldrons in wine-making is illustrated.

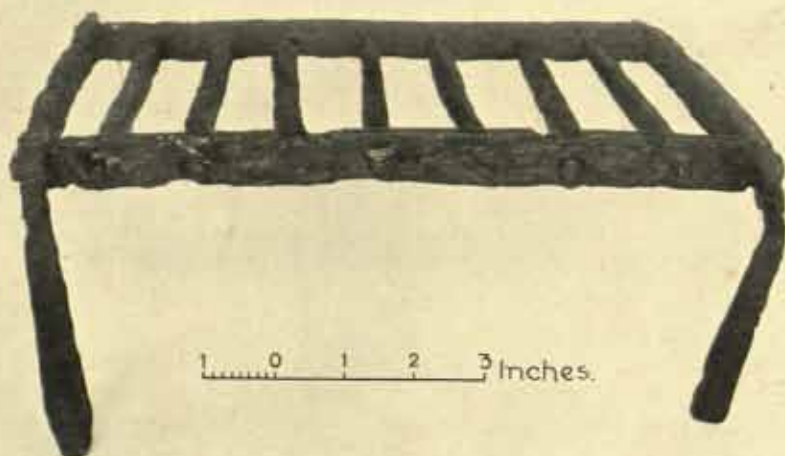


Fig. 19. Iron Gridiron, Carlingwark Loch.

One of these large vessels, filled with must or new wine, is being heated over the fire to convert it into *defrutum*, a sort of jelly; two men watch over it, while a man is pouring wine from an amphora into another cauldron.²

We have already noted in the Juellinge find the presence of a bronze vessel, containing the traces of fermented drink, associated with a ladle, colander, and drinking-cups. There the drink had been brewed. It was placed ready for use beside a woman going on her last journey. The Filzen find seems to indicate the earlier stage of the process: the

¹ *Trierer Berichte*, 1926, p. 199, Taf. X.

² *B.M. Guide*, "Greek and Roman Life," fig. 217. Cf. the description given by John Major of the brewing of ale: "The liquor is then received into a large vessel where in Scotland it is once more subjected to boiling heat. But for the production of an excellent drink, the second boiling—as I know from experience—is of the greatest moment. The twice boiled liquor is then kept for thirty hours in other vessels whence it is gently drawn, all care being taken that the lees be left behind."—*History of Greater Britain*, 1521.

cauldron with which to brew, and the vessels to strain and to hold the finished product. There can be no doubt that the Celtic people drank mead and beer. Tacitus tells that the German tribes drank a liquid distilled from barley or wheat after fermentation had given it a certain resemblance to wine.¹ In excavating the shrine of Mercury among the temples at Trier, there was recently found an altar dedicated by a sailor who seems also to have been a brewer in Trier.²

The rich Gauls drank wine and the lower orders mead and beer, while there were other drinks known in Western Spain and Britain brewed from wheat.³ Even the people of distant Thule, so Pytheas told, brewed

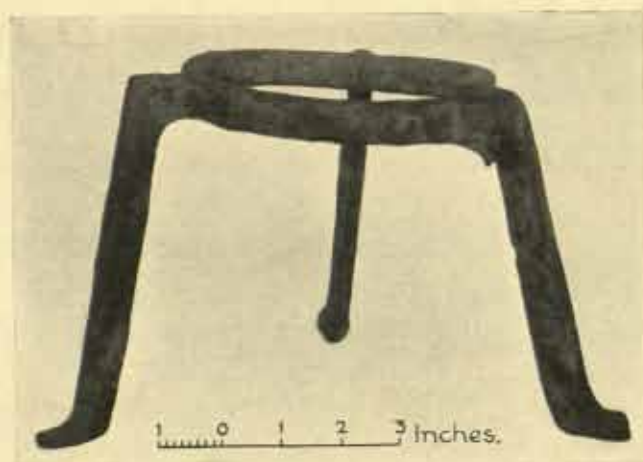


Fig. 20. Iron Tripod, Carlingwark Loch.

a drink from grain and honey.⁴ It seems therefore probable that the Carlingwark cauldron and other vessels of the kind were designed for the preparation of some fermented liquor. No doubt in Caledonia bronze vessels were less common than on the Rhine or the Moselle, and probably the process of fermentation was carried out in wooden tubs.

The Blackburn Mill cauldrons, which lay one inside the other, are smaller in size than the one from Carlingwark. Both have been hammered out of sheet-bronze. The larger of the two (fig. 21) shows many patches. Among the things which had been placed in it was the patera without a handle, already referred to (fig. 12, no. 1), and there was also, at least, a fragment of a gridiron.

¹ *Germania*, c. 23.

² Loeschcke, *Die Erforschung des Tempelbezirkes im Altbachtale zu Trier*, Berlin, 1928.

³ Posidonius, *apud* Athenaeus, 152.

⁴ Strabo, bk. iv. 5.

CONTENTS OF CAULDRONS: IRON TOOLS AND IMPLEMENTS.

Both of the finds just discussed were remarkable for the varied contents of the cauldrons, among which iron tools and implements predominated. These must now be considered.

I have already referred to the difficulty of distinguishing between tools of provincial Roman origin imported from farther South and those made in Caledonia. The native population must have given up the use of bronze for their weapons and implements some considerable time before the coming of the Romans, and yet we do not appear to have any deposits of iron tools in Scotland which can with certainty be attributed to an earlier period than the first century A.D. All of the finds embraced in the Inventory come from the area



Fig. 21. Bronze Cauldron, Blackburn Mill.

which lies between the Antonine Vallum and the Wall of Hadrian. With one exception, the more important come from sites at a distance from roads which are identified as having served as Roman lines of communication. In the hoards Roman and Celtic influences are apparent, and it seems probable that in every case we are in the presence of objects which were in native hands. The groups that are most important, alike for the number of objects they embrace and for the light they shed on the pursuits of their former owners, are those from Blackburn Mill and Carlingwark Loch, already alluded to, from Eckford, Roxburghshire, and from Traprain.

Whatever may have been the original purpose for which the Blackburn Mill cauldron had been designed, it had been used for the deposit of a miscellaneous collection of objects (fig. 22). One of these definitely links the deposit with the Roman period—the bronze patera already described, which has been assigned to the mid or late second century. One is tempted to endeavour to deduce from the things constituting the hoard the vocation of its former owner. Was he a husbandman or a travelling tinker? It really does not matter which; it is enough that his possessions indicate the conditions of life in which he was moving. The ploughshare (no. 58), the hoe (no. 62), the sickle, still preserving its wooden handle (no. 5), possibly the rake (no. 21) are there, revealing the husbandman. There were waggons or carts, as we can see from the linch-pin (no. 47). Two brass-headed



Fig. 22. Contents of Cauldron, Blackburn Mill, Berwickshire. (½.)

terminals, to be mentioned later, appear to belong to the Celtic type of these objects. Horse-shoes are absent, but there is a hippo-sandal (no. 60) for binding on a horse's hoof, furnished with four strong studs projecting from the sole to prevent the animal from slipping. A quern for grinding corn must have been a necessary possession for any settler. It was no doubt for the purpose of keeping the face of the quernstones in order that a millstone pick was included (no. 3). For other tools there is an adze (no. 1), a couple of socketed gouges (nos. 7 and 8), a peg-anvil (no. 2), and a heavy socketed knife (no. 4), which might have been used as a chopper.

Some of the objects suggest the furnishings of a dwelling—a key (no. 51), a lamp-stand (no. 61), a heavy chain, with terminal hooks, for hanging pots above the fire (no. 39). There is one portion of the rim of a large bronze cauldron, which may have been used for brewing or for cooking (no. 34), and there are a number of handles of varying sizes (nos. 28 to 32), which must have belonged to vessels of bronze or of wood. It is probable that among the native people wooden bowls, tubs, and ladles were in common use. The lake-dwellers at Lochlee left behind them enough to show their skill in woodwork, and we have indications of the use of wooden vessels elsewhere in Scotland. The skill of the native wood-carver in pre-Roman times is to be seen in the decoration of the wooden tubs and other vessels found at Glastonbury. It is perhaps due to the more common use of wood in domestic utensils that none of these iron hoards contains a single fragment of pottery, and indeed it is evident both from the relics at Traprain—though there the quantity of native pottery is considerable—and from the lake-dwellings in the west that the art of the native potter lagged behind that of the metal-worker, and possibly the cooper. In the Blackburn Mill hoard there are two rings attached to heavy mountings, which, judging from the strong nail still preserved in one of them, must have been fixed to wood and may have been attached to wooden tubs (nos. 40 and 41). Two heavy Late Celtic mountings, which had been found at Newstead during the excavations and were recently handed over to the National Museum, must have been designed for the same purpose. In addition to the above we have a small iron spoon (no. 13). The bowl, unfortunately, is imperfect, but the handle shows the twist in the stem which one finds on such objects. It can be seen in a spoon from Compiègne.¹ There is also a part of a pair of shears (no. 11), together with a large number of small objects—ring-staples, hooks, and pieces of scrap-iron.

While the patera definitely connects the find with the Roman period,

¹ *Catalogue du Musée des Antiquités, Saint-Germain-en-Laye*, 1917, fig. 281, No. 15856.

there are one or two objects which seem to suggest Celtic culture, notably the two bronze or brass mountings already referred to (nos. 36 and 38). These seem to have served as the tops of linch-pins. They are about $1\frac{3}{4}$ inch high, and are hollow as if to allow of their being fitted to a circular rod or pin of some other metal. They may be compared with the bronze upper mountings of a pair of Late Celtic linch-pins found with a chariot burial in the King's Barrow, Arras, in Yorkshire.¹ There is also a bronze disc, $2\frac{3}{4}$ inches in diameter (no. 35). It is concave on the front, perforated in the centre by a single opening, then curving slightly outwards and terminating in a flat edge. It seems probable that it was a harness ornament, and that through the hole in the centre there was affixed a loop on the back. Mr Reginald Smith discusses an object of this nature in the Layton Collection, and notes that, while the type occurs in the Swiss lake-dwellings, it apparently came down to Roman times.²

The find from Eckford [No. 20] is smaller than the last, and unfortunately the individual objects have suffered from disintegration. They were discovered within a couple of miles of the Dere Street, and not many miles distant from the fort at Cappuck. There are two objects among them which indicate the Celtic element. The first of these is a cheek-piece for a bridle, the design upon it filled in with red enamel (fig. 49). A similar piece, though more elaborately decorated, was among the finds from the Polden Hills, Somerset.³ The other is a bronze terret. With these were a number of tools—a linch-pin and various fragments. The most uncommon tool was an implement known as a buttress, or in France as a *boutoir* (fig. 50, no. 14), employed by a farrier for paring horses' hoofs. This tool seems specially to link the find with provincial Roman civilisation. An example was found at Silchester,⁴ and another at Stotzingen, the latter preserved in the Museum of Ulm.⁵ They have been found in France, where the tool is probably still in use, as it is in Spain and Italy, although not in this country. Occasionally they occur with elaborately decorated handles, as at Bar-le-Duc, Grenoble, and Pompeii.⁶ Here again we have evidence of the presence of horses, and the linch-pin tells of wheeled vehicles. There are three hammer-like tools (nos. 2, 8, and 9); two of these are possibly millstone picks; a third seems to be a mason's hammer. A somewhat similar example comes from the Saalburg.⁷ An adze-hammer (no. 1) must have been a wood-worker's tool, and there is a bill-hook (no. 10) and a hoe or ploughshare (no. 7).

¹ *Archæologia*, vol. lx. p. 279, fig. 21.

² *Ibid.*, vol. lxix. p. 18, fig. 17.

³ *B.M. Guide to Early Iron Age Antiquities*, 2nd ed., fig. 163.

⁴ *Archæologia*, vol. lvii.

⁵ Lindenschmidt, *Allertümer unserer heidnischen Vorzeit*, I. Taf. V. 7.

⁶ *Revue Archéologique*, 1867, vol. xxxii. p. 17.

⁷ Jacobi, *Das Römerkastell Saalburg*, p. 218, fig. 32, 7.

The only things which are suggestive of the interior of a dwelling are a heavy hinge (no. 11) and a number of much-rusted bars, one of which may have formed part of a gridiron (no. 13). An unusual object, and one difficult to explain, is a cylindrical socket of iron, which may possibly have formed part of a large padlock (no. 3).

If the finds from Blackburn Mill and Eckford bring back to us the figure of the man labouring the land, the contents of the great bronze cauldron dredged up from the bottom of Carlingwark Loch (fig. 23) reveal the metal-worker. We have, unfortunately, nothing to enable us to arrive with any accuracy at the date of the Carlingwark find. When found, the hoard included pieces of green-coloured glass. On one piece the letter A, and an upright stroke which might be a portion of M or some other letter, stood out in relief. These pieces have now disappeared, but the record suggests that they came from one of those large Roman bottles of green glass, with the maker's name moulded in relief on the bottom.

There is little or nothing in the hoard to associate the owner with agriculture. A small tanged, curved blade, with its point gone and its cutting edge broken, may have been a sickle (no. 9), and there is a snaffle-bit (no. 31) of a type which Déchelette associates with La Tène.¹ The smith predominates. There is a small anvil (no. 24), only $3\frac{3}{4}$ inches high by $8\frac{1}{2}$ inches in diameter across the face, and there is also the upper portion of a still smaller anvil (no. 22). Clearly these could only be used for light work. Altogether there are five hammer-like tools. One of these is $7\frac{1}{4}$ inches long, slightly expanding at the ends; the shaft-hole is rectangular (no. 1). It resembles a hammer still used by silversmiths for light work. A broken hammer much of the same type (no. 8) also suggests a metal-worker. The other three tools in this group (nos. 3, 4, and 5) are possibly millstone picks.

There are three cold chisels (nos. 43, 44, and 49), two files, a punch, an adze-hammer (no. 2), a small axe (no. 14), and a saw (no. 15); a knife and two small double-edged tanged blades (nos. 46, 47), part of a scythe, together with numerous pieces of scrap-metal, hooks, staples, etc. Among the odds and ends which go to form the collection are several small pieces of bronze, which have been used in repairing vessels. They show the skill of the smith in applying patches (fig. 24). The cauldron itself has many such mendings, fixed with lines of small rivets. The sides were thin and easily damaged, and must often have required repairs. Sometimes three thicknesses of metal were employed. Among the scrap-iron there are the points of eight swords (fig. 23, nos. 31-38), varying in breadth from $6\frac{1}{2}$ inches to $2\frac{1}{2}$ inches.

¹ *Manuel celtique et gallo-romaine*, fig. 511, 4.



Fig. 23. Contents of Cauldron, Carlingwark Loch, Kirkeudbright. (f.)

It would be interesting to know if they came from Roman or from native weapons. If we are to believe Tacitus, the great sword of the Caledonian was without a point, *sine mucrone*; if so, these should be Roman swords, but, unfortunately, no weapon has come to light to substantiate the statement of Agricola's biographer, and the swords



Fig. 24. Bronze Patches, Carlingwark Loch.

found at Newstead with mountings that indicated a Celtic origin were undoubtedly pointed. The points from Carlingwark appear to belong to narrower blades than that of the Roman gladius found at Newstead, which had a breadth of 2 inches. The greatest breadth of any of them is $1\frac{1}{8}$ inch. It is curious that Traprain also produced a sword-point which is $4\frac{7}{8}$ inches long by $1\frac{1}{8}$ inch broad at the line of fracture. These are apparently the type of blades which would fit the native mountings found at Newstead, at Middlebie, or at the Ayrshire fort of Castlehill [No. 44]. On the other hand, they seem to belong to rather wider

blades than those of the "spatha" type found at Newstead. On the whole, swords seem to be so scarce on native sites that I am inclined to regard these blades as of Roman origin, but the data are insufficient to warrant any very definite conclusion. The cauldron also contained a number of pieces of iron chain-mail (fig. 25). This appears to differ in no way from the fragments of an iron corselet found in Pit 1 at

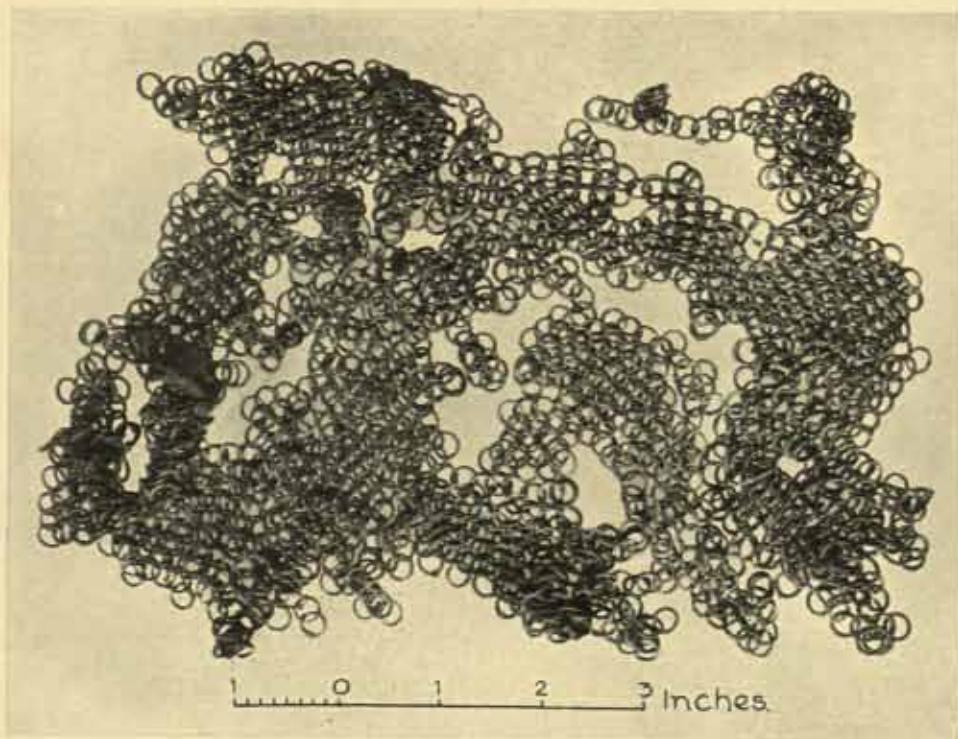


Fig. 25. Chain-mail, Carlingwark Loch.

Newstead. It has the same arrangement of welded and riveted rings. It was not only in Caledonia that chain-mail drifted into barbarian hands. A fragment was found at Öremölla, in Sweden, with the Roman objects noted above, and another in the Thorsbjerg Moss in Denmark. On the other hand, chain-mail was present among the finds at Stanwix, Yorkshire, which were typically Celtic, with no association with Roman coins or pottery.

Among the objects which must have belonged to a house are the crook of a door (fig. 23, no. 19) and what appears to be part of a hinge or possibly of a gridiron. The ring-staples, hooks, nails, and bolts must

have been used for woodwork. The iron tripod and a gridiron included in the hoard have already been mentioned. Similar gridirons were found at Newstead, and must have been familiar objects throughout the provincial Roman world. No. 75 appears to have been a mounting for a bucket. It must have been fastened by four nails into the side, while the hole in the upper projection would receive the handle. Possibly no. 74 is another example of such mountings. Fig. 26 is the bronze handle of a wooden tankard. The tankard was no doubt put together with staves, covered with thin sheets of metal bound together by metal hoops. It is unlikely that it was used for water. It would serve to pass round the liquor brewed in the great cauldron. We have here an object which is typically Celtic. Such tankards, dating from

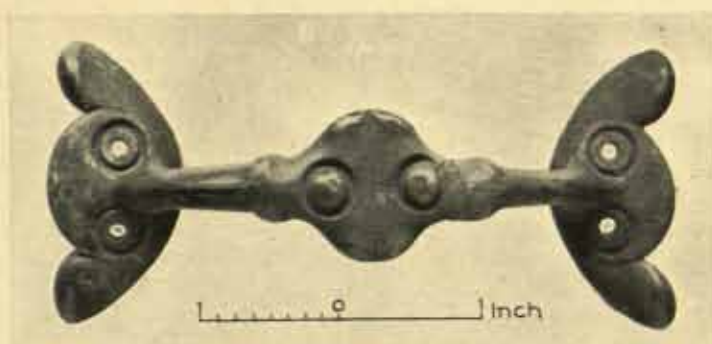


Fig. 26. Bronze Tankard Handle, Carlingwark Loch.

the first century B.C., were found in the pre-Roman cemetery at Aylesford, in Kent,¹ and their continental origin can be traced from the occurrence of one of them in the cemetery of St Bernardo at Ornavasso, in North Italy, with denarii belonging to the period 104-184 B.C.² Mr Reginald Smith illustrates an example preserved in the Brentford Public Library. It is just under 6 inches in height and 6½ inches in diameter at the mouth, increasing to 7 inches at the base. The staves are there, and are dowelled together with small pieces of hard wood. The sides are covered with three bronze bands, and there is a single handle.³ A fine example of these tankards found at Trawsfynydd, Merioneth,⁴ is preserved in Liverpool. A number of enamelled tankard handles were found with decorated horse trappings at Seven Sisters, near Neath, in Wales. Dr Wheeler, in view of the employment of red and white enamel in their ornamentation, dates

¹ *Archaeologia*, vol. lli, p. 35.

² Willers, *Neue Untersuchungen über die römische Bronzeindustrie*, Abb. 12, 8.

³ *Archaeologia*, vol. lxi, p. 23.

⁴ *Prehistoric and Roman Wales*, fig. 85, p. 218.

them to the first century A.D.¹ Our handle possesses none of the winding Late Celtic ornament to be seen upon the Welsh specimens. There can be little doubt that it dates from a somewhat later period, but we have only to compare the outline of its terminals with the enamelled horse-trappings from Polden Hill or Alfreton, Sussex, to realise whence the pattern was derived.

It cannot be said that we find either at Traprain or in the crannogs in the western counties many types of tools unrepresented in the hoards we have been considering. While at Blackburn Mill, at Eckford, and at Carlingwark Loch we are dealing with isolated deposits, at Traprain and in the crannogs the tools lay scattered over the sites, and are thus presented to us more closely in relation to the work for which they were made. The dwellers on Traprain, perched up on their rocky height, must have cultivated the land lying round the base of their hill. The excavations yielded examples of the ploughshare, the hoe, the ox-goad, and the sickle. The type of blade of the last is longer and narrower than that of the sickles found at Newstead. The linch-pin again bears witness to wheeled traffic, and with it there is a fragment of a wheel tyre. Terrets of bronze are not uncommon. There is a cheek-piece of a bridle and several small horse-shoes without calkins. The carpenter's tools are not numerous, but there are axes, a mortising chisel, and a file. The metal-worker is represented by a smith's set-hammer and light "tongs" for handling some delicate object. Knives are common. Of special interest are the knives of spatulate shape (fig. 46) found in 1914, one of which still retains its handle of bronze, which is of unusual form, divided into two longitudinal quasi-cylindrical sections separated by a sharp-edged moulding. Mr A. O. Curle points out that this type of knife is found in the Gallo-Roman cemeteries of Vermand dating not earlier than the third century, with the handle in bone or horn,² and that it is also to be found among the knives illustrated in the *Catalogue of the Niessen Collection of Roman Antiquities at Cologne*. The resemblance is too close to be fortuitous. It probably indicates that not only pottery and glass but also cutlery was being imported in the third century from the Rhine into Caledonia.

The dwellers in the crannogs must have been quite accustomed to iron tools and weapons. At Dowalton there are axes and a heavy hammer. At Lochlee [No. 45], where the construction of the crannog was carefully examined, it was noted that it was built up with log pavements surrounded by lines of piles bevelled at the upper ends, and

¹ *Op. cit.*, fig. 84.

² Eck, *Les deux cimetières gallo-romain de Vermand*, Pl. xii, fig. 15, p. 196.

with mortised holes cut in them through which wooden pins were passed, possibly forming a breastwork. For such construction iron tools were necessary, and among those left behind were an axe, a saw, a gouge, a chisel, a punch, as well as knives and shears. There is one bridle-bit of iron and bronze, but there is little trace of agricultural implements. It is possible that tools of bone and deer-horn, of which there were many remains, were used for this purpose. At Buston we have again an example of an axe, a number of knives, and one of these boring tools shaped like a gouge (fig. 62, no. 1), 14 inches long, of a type found in the ditch of the early fort at Newstead.¹ It is probable that it was used as a bow-drill.

BRONZE FIGURES.

Two bronze statuettes have been found in Scotland—one at Stelloch, Wigtownshire [No. 41] (fig. 58), the other at Throsk, Stirlingshire [No. 60] (fig. 65); both represent Mercury. In neither case were there any associated objects. M. Reinach² notes the large number of figures of Mercury in the Museum at Saint-Germain-en-Laye, confirming the observation of Caesar that in Gaul the worship of the God was more widespread than that of any other. The Mercury from Throsk may very easily have found its way there from some fort on the Antonine Wall; and Stelloch, though (as far as we know) well outside the sphere of Roman influence, lay close to the coast, and the figure may have been brought from the South. It was not only in Caledonia that such statuettes drifted into barbarian hands. A number have been found in Denmark; while in 1837 an admirable bronze figure of Juno was discovered in the Swedish island of Öland.³

Few more remarkable vestiges of Roman rule have come down to us in Scotland than the severed leg of a gilded bronze imperial statue found at Milsington [No. 21], high up among the hill country in Teviotdale, and with it the heavy base, also of bronze, on which there probably once stood a figure of Victory (fig. 27). Here we have clearly enough the evidence of plunder, the repercussion of the invasion, something that must be linked up with the abandonments and with the rebuildings which are a familiar feature in the history of the forts. How it found its way to the Borthwick valley we shall never know, but a gilded statue, more than life-sized, is a product of settled life, of a walled town, rather than of the changing conditions of a fort holding a restless military zone. We cannot visualise the conditions which would

¹ Newstead, Pl. lix., No. 12.

² *Bronzes figurés de la Gaule romaine*, p. 64.

³ Montelius, *Antiquités suédoises*, fig. 300.

have led to its erection anywhere north of the Great Wall. It must have been dismembered in some great convulsion farther south and laboriously carried into the north by rough tracks across miles of moorland.



Fig. 27. Leg of a Statue of gilt bronze and base for a figure of Victory, Milsington, Roxburghshire.

MARBLE.

The only other piece of Roman statuary which has been found far from the site of any Roman fort or highway is the marble head (figs. 28 and 30) which was dug up in the eighteenth century near the site of an old chapel near Hawkshaw, in the Peeblesshire parish of Tweedsmuir [No. 27]. It is evident that it was intended as a portrait. There is char-



Fig. 28. Marble Head, Hawkshaw, Peeblesshire. ($\frac{1}{2}$ in.) (Front view.)

acter in the strong mouth, with its turned-down corners. The modelling of the features is very realistic, though, as a whole, it cannot be regarded as an attractive work of art. Its Roman origin seems to be beyond doubt, and it probably dates from the reign of Trajan, though it cannot be identified as a representation of the Emperor himself. Mr Richmond of the British School at Rome points out that it is only in the late heads of Trajan, such as those from the Arch of Beneventum, portraying the Emperor at the age of sixty-four, that we find anything like the downward trend at the angles of the mouth, which we see on the Hawkshaw head. It is of course possible that the artist was working from a poor model.

Monsieur Raymond Lantier, who has recently discussed the head in a study of Gallo-Roman portraiture, agrees that it is Trajanic, but is not prepared to accept it as representing the Emperor himself. He regards it rather as belonging to a series of provincial portraits, in which, in the epoch of Roman domination, the influences and the traditions of Celtic art continued to manifest themselves.¹ He sees in this portrait a re-



Fig. 29. Bronze Head from Bordeaux. (Museum of Saint-Germain-en-Laye.)

markable example of a happy compromise between the Roman and the Celtic tradition. In it only the arrangement of the hair, the accentuation of certain features of the face, such as the exaggerated development of the superciliary arches and the broad planes of the cheeks, still preserve some traces of Celtic inspiration. The peculiarity of the hairdressing, which connects the Hawkshaw head with the bronze Gallo-Roman busts from Bordeaux (fig. 29), now in the Museum of Saint-Germain-en-Laye and Prilly, in Switzerland, both illustrated by Monsieur Lantier, lies in the way in which the locks of hair, all equal and rigid as if gathered together with the application of some grease

¹ Lantier, "Tête d'un jeune chef Aquitain," *Monuments Piot*, xxxi.

or cosmetic, seem to form a cap on the head. It is further to be noted that the arrangement of the hair, characteristic of Trajan's period, rapidly went out of fashion in the succeeding reign. The Hadrianic hairdressing, with locks curling above the forehead, may be seen in the bronze head of the Emperor found in the Thames, now in the British Museum.¹ The Hawkshaw head is rather more than life-



Fig. 30. Marble Head, Hawkshaw, Peeblesshire. ($\frac{3}{8}$.) (Side view.)

size, which is a feature characteristic of imperial portraits; on the other hand, the back of the head has been roughly finished, suggesting that it may have formed part of a bust intended to be placed in a circular frame or medallion, so that the back would be concealed. Mr Richmond suggests that such treatment might indicate that we have here a representation of a provincial notable or a Governor.

The suggestion has been made that some eighteenth-century traveller brought back this piece of sculpture from the grand tour to enrich his cabinet of antiquities; but the upland parish of Tweedsmuir and the valleys watered by the Fruid and Talla lie remote among the hills far from country houses, and there is nothing in its execution to

¹ *B.M. Guide*, "Roman Britain," Pl. vii.

connect it with Italy. It seems clear that it is provincial. A more probable source from which the head might have come is the fort at Lyne. This fort was excavated in the summer of 1900; the work must have been far from exhaustive, and the relics recovered were very few. Among them, however, as has already been noted, was a single much-worn fragment of a decorated Flavian bowl; but even if we thus have evidence of the presence of a Roman garrison at Lyne during the Agricolan period, it is difficult to connect the presence of a Trajanic piece of sculpture with this fort, or indeed with any other Roman post in Caledonia, unless we are prepared to admit that the Agricolan occupation was prolonged into Trajan's reign. That it should have been carried north with the Antonine invasion seems highly improbable.

BROOCHES.

The Sigillata bowls, the bronze pateræ, and a good deal of the glass found in Scotland come from the Continent. On the other hand, the majority of the brooches were made in Britain. Certain types are indeed a characteristic feature of Romano-British civilisation, and it is of interest to trace their distribution in Scotland as an indication of the influence which that civilisation exercised north of the Great Wall. Altogether, excluding the penannular types, the occurrence of 77 brooches in Scotland is noted. Of these, 67 come from the area south of the Vallum, 10 from the north. By far the largest number is from Traprain. Without counting indefinable fragments, it contributes 45 examples. That so many should come from one site is an indication of the numbers that must await discovery. With the exception of 5 examples which can certainly be assigned to the third century or later, the Inventory includes very few types of brooches which have not been found at Newstead or on other Roman sites in Scotland. There is an almost entire absence of brooches which might be definitely classified as the ornaments worn by the native population prior to the Roman occupation. The earlier forms—such, for example, as the simple safety-pin La Tène brooch which was found at Newstead¹—are not recorded from any of the native sites associated with Roman products, though the Museum possesses two examples found on Glenluce Sands. The disc-shaped brooches decorated with enamel which were comparatively common at Newstead and at Camelon, and which are closely related to continental finds, are represented at Traprain by a single example (fig. 31, no. 8); elsewhere, with the exception of a brooch in the Borness cave, which was probably at one time

¹ *Proc.*, vol. II. p. 232 (1).

enamelled, they are absent. The bow-shaped fibulae, on the other hand, which occur on both Roman and native sites, do not appear to exhibit any peculiar characteristics which enable us to distinguish the possessions of the dwellers in the forts from those of the native population. As in all early handicraft, the brooches everywhere show small differences in detail and in ornament, but it is evident that the patterns came from some common sources of supply.

If we are right in assuming that such personal ornaments as were found at Newstead or Camelon were left behind by the troops or the population dwelling in the shelter of the forts, it follows that all the types of brooches found at Traprain, with perhaps two exceptions, were evolved, and were in vogue, in Caledonia between the coming of Agricola and the withdrawal in the latter years of the second century. There is nothing to show that there was any independent evolution of those types in the years which followed the general abandonment. Coins of the third and fourth centuries are found; but the fibulae of that period, of which only two occur at Traprain, are rare, and they belong to continental types which are only distantly related to the earlier brooches. Further, it is to be noted that the number of brooches found north of the Vallum is very small. Two of the ten recorded belong to the fourth century or later, and there are one or two which it is difficult to assign to any well-known group. It is perhaps dangerous to base conclusions on the comparatively slender material we possess, but on the whole it seems probable that, although certain patterns might be reproduced here, the great proportion of the brooches found in Scotland came North with the troops or with the traders who followed in their wake, and that they fell out of fashion or ceased to be imported after the abandonment in the reign of Commodus. At Traprain the trumpet brooch, in Mr Collingwood's classification designed as Group R, occurs most frequently; altogether there are thirteen examples of it, some plain and others enamelled or inlaid with silver.¹ It is clear that certain forms of this brooch were made in the first century. An example was recovered from the ditch of the early fort at Newstead, dating from the Agricolan occupation, in which the decoration at the highest point of the bow consists of a bead-like knob (Collingwood, R1.); probably the floriated ornament which is so common on these brooches had not yet been developed. The same feature is to be seen in a very fine specimen from Traprain (fig. 31, no. 3). It is unusually massive, and the centre of the bow consists of a disc-like ornament between two collars, from which it is separated on each side by a hollow moulding; both the head and the stem are inlaid with silver in graceful leaf-shaped figures and winding

¹ *The Archaeology of Roman Britain*, p. 251.

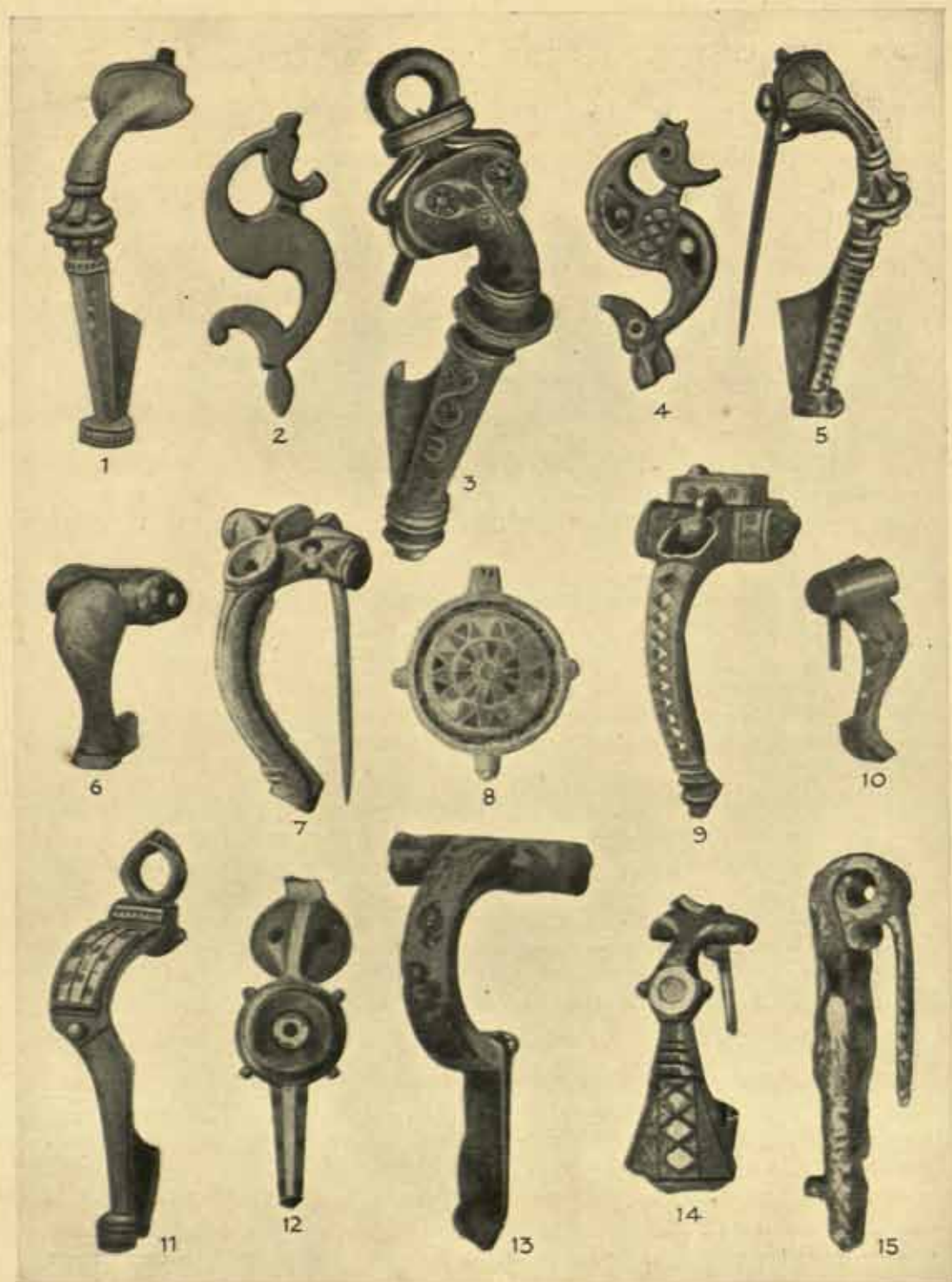


Fig. 31. Brooches from Traprain, East Lothian. (f.)

scrolls. The brooch was found on the lowest level, and probably dates from the first century. The type with the acanthus-like ornament on the bow (Collingwood, R ii.), both plain and enamelled, is also present (no. 1). This brooch had come into fashion by the first half of the second century. There is also the brooch in which the acanthus-like moulding is not carried round the bow, and the back is left plain (no. 5) (Collingwood, R iv.), which is again a second-century type. The finds of trumpet-shaped brooches indicate a wider distribution than that of



Fig. 32. Silver Brooch, Ayrshire.
(1.)

any other type noted. Two examples of this brooch come from Glenluce Sands (fig. 57). It also occurs in the crannog at Lochlee, where the ornament on the bow suggests a first-century origin (fig. 61). Two fine specimens come from Ayrshire [No. 43]; one of these is of silver (fig. 32). Yet another appears to have been found at Bank Farm, Dolphinton [No. 48], in Lanarkshire. The National Museum has examples from the Culbin Sands, Moray (fig. 69), and from Lochside, Spynie [No. 77] (fig. 70); and an example is recorded as having been found at "Bishop's Palace, Orkney" [No. 85], which may refer to Kirkwall or possibly to Birsay.

The next type which is numerous at Traprain is the head-stud brooch (fig. 31, nos. 7 and 9) (Collingwood, Group Q), of which there are nine examples. All of these probably belong to the second century. A finely enamelled example was found in the crannog at Lochlee [No. 45] (fig. 61) and a pair at Lamberton Moor associated with a dragonesque fibula (fig. 48). In the brooch from Lochlee, as well as in those from Lamberton Moor, the pin has a spring and the head-loop is of wire. All of these brooches possibly belong to the first half of the century. A somewhat corroded example of this brooch was found at the fort of Rink, Selkirkshire [No. 25]. There is also an enamelled one from a native fort at Earnsheugh, on the Berwickshire coast [No. 15]. The dragonesque fibula was represented at Traprain by six examples, some of them plain and without ornament (fig. 31, nos. 2 and 4), others enamelled. It is quite probable that some of them were made on the hill. The only other native sites on which these brooches have been found are at the Borness Cave, at Lamberton Moor, and at Castlehill, Ayrshire. The evidence of the presence of this brooch at Borness consisted of a small fragment representing one of the terminals (fig. 56). It appears to belong to an

early stage in its evolution, because the round eye is wanting and the curved snout has not yet been developed. The find of a fragment of the Sigillata cup, D. 27, at Borness makes it probable that the cave was occupied in the first century, and that this small piece of bronze belonged to a brooch of that period. The example found at Castlehill Fort, Ayrshire (fig. 59), is unusually decorative. With the brooch of the same class found at Lamberton Moor, it may be assigned to the first half of the second century.

Nine examples of the small brooch known as the knee fibula (fig. 31, nos. 6 and 10) were found at Traprain. Usually it is undecorated, and has its spiral spring enveloped in a box-like cover (Collingwood, Group V). Two specimens are inlaid with silver. The group appears to belong to the latter half of the second century. There are two examples of the trumpet-shaped brooches with an enamelled disc on the bow (no. 12) (Collingwood, Sii.). Of the modification of this type, with a fan-tail as well as a disc and a T-shaped head, there is one (no. 14). Both of these types were present at Newstead. They are assigned to the second half of the second century. There is, further, an example of a brooch with the bow decorated with enamel and having a rectangular plate inserted between the head and the head-loop (no. 11). This brooch has not been found on any of the fort sites, but the Museum possesses one from near Peebles [No. 27]. The brooch appears to be related to a pattern figured by Mr Collingwood.¹ It is probably of the late second century.

There are two iron brooches from Traprain which do not appear to belong to any of the well-known patterns (no. 15). They are fashioned from a single plate of metal, $2\frac{5}{8}$ inches long. The spring is formed by coiling the end of the plate, while the pin, which is of bronze, has passed up the back of this in a groove. It is quite possible that these were made on the spot. There appear to be only two brooches from Traprain which are later than the second century. The first of these is of the crossbow design (no. 13); Mr Collingwood terms it P-shaped.² It measures from head to foot $2\frac{3}{8}$ inches. It is quite devoid of ornament, but seems to have been gilt. The pin is wanting. The arms have no terminals, but these may have been broken off. This pattern does not appear to have been found on any of the fort sites in Scotland. It probably dates from the third century. The second late brooch (fig. 33) belongs to the little group of personal ornaments which formed part of the silver treasure brought to light in 1919. Hitherto all the brooches we have been describing were probably made in Britain, perhaps somewhere north of the Humber; but the small silver *fibula* which had been concealed with so much precious loot belongs to a different family, and

¹ *Op. cit.*, fig. 62, No. 60.

² *Op. cit.*, Group T.

is probably a relic of the Teutonic migrations. The latest of the four coins which accompanied the treasure was minted under Honorius (395-423). The type seems to have first appeared in Eastern Europe, but by the fourth century it had found its way to North Germany and to Sweden, where silver brooches with the same semicircular head and broadening stem are not uncommon. The late Professor Drexel in a recent paper on the treasure cited a find from Izenave, in the department of Ain, France.¹ Here a silver brooch was found with two buckles of types not dissimilar to those found at Traprain, accompanied by a typical Frankish beaker of glass and coins of Valentinian III. and

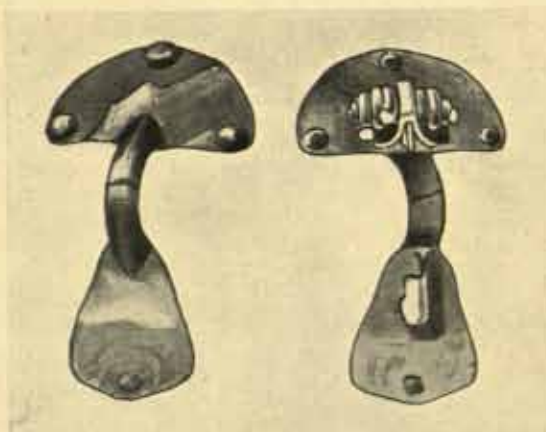


Fig. 33. Silver Brooch from Traprain, East Lothian. (†.)

Majorian, showing that the double burial in which these objects had been deposited could not be earlier than the year A.D. 457. In the brooch from Izenave the semicircular head has become more spade-shaped, and the foot has lost its lateral expansion, but the department of Ain lies just north-east of Lyons, and no doubt time and the journey southward may have modified the northern form.

Apart from the brooches found at Traprain and the cognate forms we have mentioned, there remain one or two examples from the area south of the Vallum which are worthy of mention. At Lochlee, with the trumpet-shaped and head-stud brooches, there was found a simple undecorated brooch of bronze (fig. 61). It has a small bow, and the stem to which the catch-plate is attached is broadened out into a flat plate with a rounded end; the pin has a spring. It may have been made locally. Among the screes on the hilltop beside the Broch of Bow, a small enamelled brooch in the form of a cock (fig. 34) was picked up. The same

¹ *Bulletin Archéologique*, 1912, p. 265, Pl. xxxix.

type occurs at Wroxeter and at Lincoln, but it is also found on the Continent at Heddernheim and elsewhere. A brooch of tinned bronze, found at Denholm Hill, Roxburgh [No. 19], takes the form of a swastika (fig. 35). It is the only example of this shape as yet recorded from Scotland. It occurs at Brough in Westmorland, but it seems so common on the Rhine that it may have been imported here. No less than sixteen were discovered in the fort of Zugmantel—one in a cellar, with a series of coins extending from Augustus to Crispina. The type appears to belong to the late second century.¹ There only remains to be mentioned one brooch from the south of the Vallum. This remarkable ornament (fig. 54), which was found about the year 1787 at Ericstanebrae, near



Fig. 34. Enamelled Brooch,
Bow, Midlothian. (1.)



Fig. 35. Bronze Brooch, Denholm
Hill, Roxburghshire. (1.)

Moffat [No. 32], is of massive gold. It appears to be of the crossbow type; the arms, together with the pin, are now wanting. The semi-circular bow forms a hollow triangle in section. The sides are cut out in patterns, and bear in pierced work the letters IOVI AVG and VOT XX (vicennalia) respectively. On the lower side, which is plain, are scratched the letters PORTO. The inscription dates it to the beginning of the fourth century. Diocletian assumed the style of Jupiter, and Maximian that of Hercules. The celebration of their Vicennalia on 20th November A.D. 303, to which the inscription evidently refers, was accompanied by an imperial triumph. "In the eyes of posterity," Gibbon wrote, "the Triumph is remarkable by a distinction of a less honourable kind. It was the last that Rome ever beheld. Soon after that period the Emperors ceased to vanquish, and Rome ceased to be the capital of the Empire."²

The brooches which have been found north of the Vallum are few

¹ R. G. Limes, *Das Kastell Zugmantel*, p. 84.

² Gibbon, *Decline and Fall of the Roman Empire*, chap. xiii. p. 157.

in number. Of the ten which have come to light, the earliest typologically comes from Dores, in Inverness-shire [No. 90] (fig. 36, no. 1). The brooch is hinged; the bow is formed by a flat strip of metal, and ends in a knob at the foot. It has a well-defined catch-plate. It is closely related to the Aucissa class, and should date from about the middle of the first century. It is true that there is a flattening of the curve of the bow and that the pin-holder is larger than is usual in this type, while the medial line which divides the bow longitudinally is wanting. The line, however, may have disappeared with the patina. The surface has been much rubbed. On the whole, there seems little doubt that it is an early brooch closely related to a continental type. It is difficult to account for its presence so far north as the shores of Loch Ness.

A very beautiful brooch was found in 1850 on the farm of Newpark on the estate of Polmaise, near Stirling [No. 59] (nos. 2 and 3). It belongs to a type which is present at Newstead,¹ and also at Poltross Burn (Collingwood, Group E). The piercings of the catch-plate are unusually elaborate, trumpet-shaped and crescentic mouldings. This type of brooch, distinguished from our example by having a spring, has been found with Late Celtic objects at Polden Hill, Somerset. The ornamentation of the catch-plate in the Polmaise brooch is so characteristic of Late Celtic design that it may date from the end of the first century. The brooch found at Spynie, and the example recorded from Bishop's Palace, Orkney, have already been referred to; both appear to be trumpet-shaped brooches of second-century type. In addition to these there is a little group of brooches found on the Culbin Sands, in all four in number. One of these is a trumpet-headed brooch which might be early (fig. 69, no. 1); it shows no signs of enamel-work, and the knob on the bow has little of the floreated character. It is quite possible that this may be a copy of a brooch which had been obtained farther south. Another of the brooches, with the pin working on a spring enclosed in the head (no. 2), is possibly related to the knee fibulae found at Traprain. Two others seem to suggest degraded copies of brooches (no. 3), but the finds from Culbin Sands range over a long period of time, and we have no associations which enable us to assign a date to them. The two brooches which remain to be mentioned are both later. The first of these was exhibited to the Society of Antiquaries of Scotland in 1851, and is represented in the National Museum only by a replica. It is said to have been found on the shores of the Moray Firth [No. 77A]. It is a fine example of the crossbow type (fig. 36, no. 4), made of gilt bronze. The ends of the arms and the head terminate in hexagonal knobs. The stem is enriched with elaborate cusped ornamentation.

¹ *Newstead*, Pl. lxxxv. fig. 4.

It is related to the third-century brooch found at Traprain, but in its present form the brooch belongs to a class found all over the Roman

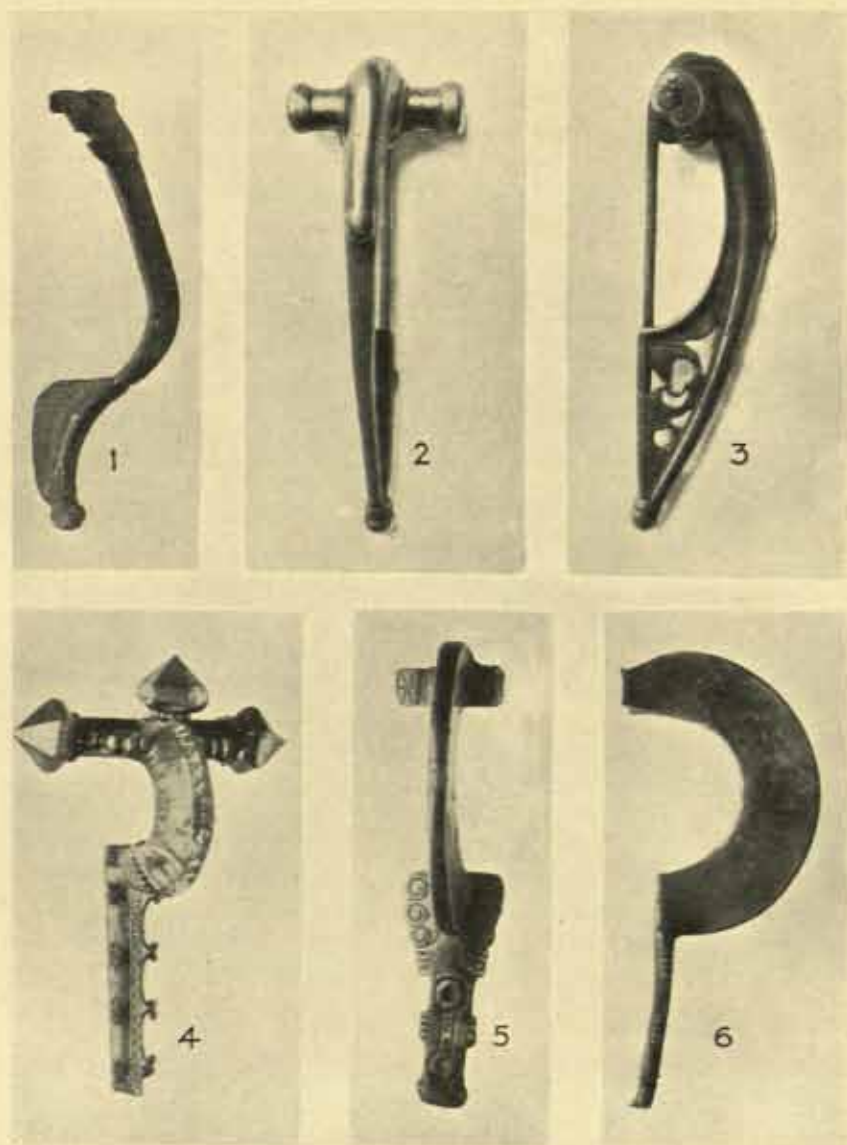


Fig. 36. Some brooches found north of the Antonine Vallum.

provinces as well as in Italy. Our specimen probably dates from the fourth century. An example was found at Poitiers with gold coins

dating from Valentinian to Arcadius. Brooches of this type, though much less elegant, are among the finds from Richborough.¹ The second brooch was found at the Broch of Carn Liath in Sutherland [No. 78] (nos. 5 and 6). In the account of its discovery in 1871 it is described as "one supposed fibula, said to be of Roman type." It is a solid silver brooch of very unusual form. It measures about 3 inches in length, and is of crossbow shape, but the arms are very short and without terminals. The bow, on the other hand, is high and pronounced, being $\frac{1}{2}$ inch in depth and $\frac{1}{8}$ inch in thickness. The stem spreads out at the base of the bow and is incised with three spirals, while farther down are groups of slightly serrated projections on each side. On the front the stem is ornamented by two incised circles with hollow centres, which appear to have been filled with enamel, joined together by parallel lines. The right arm of the brooch has been crushed and bent upwards, but on the left arm there is a small panel which is divided by lines forming a saltire with two pellets, one placed on each side of the centre. The pin-holder is gone. It is clear that the spring was attached to the plate forming the head, the ends being fixed into holes which are to be seen both on the upper and lower sides of the bow.

The brooches recorded in this Inventory belong, with few exceptions, to well-known provincial Roman types in use during the second century. The Carn Liath example stands alone. It is clear, however, that its design is strongly influenced by Roman tradition. It derives its bow from the fourth-century crossbow type, and the projections on the stem are merely unskilful reproductions of the cusped ornament or its variants. On the other hand, the saltire decorating the arm seems to connect it with some of the silver-work found at Norrie's Law [No. 58].² It is possible that we have here a frail link between provincial Roman design and the symbols which are characteristic of the sculptured stones of the north and east of Scotland.

CONCLUSIONS.

What conclusions are we to draw from the facts brought together in the Inventory? What light do they shed on the problems of the Roman occupation?

In the first place, they present to us a picture of the country into which Agricola and his columns marched, bringing the people for the first time face to face with the disciplined forces of a great military power. On the one side we see the military roads and the camps and

¹ *Richborough*, Second Report, p. 44 (Nos. 19 and 20).

² *Proc.*, vol. vi. p. 2.

forts of the invader; on the other side the native population, sometimes dwelling in their circular huts of wattle and daub surrounded by entrenchments—not infrequently perched on the hilltops—sometimes sheltered in caves, or in lake-dwellings. We have the brochs with their high walls and gloomy interiors, and, lastly, still more dark and insanitary, the weems or earth-houses. We have evidence that each of these several types of dwelling was inhabited at some period during the occupation. In the south, at least, the people had reached a comparatively high state of civilisation. They had long passed out of the hunter stage, and they were cultivators or herdsmen. They possessed horses, oxen, sheep, and swine. Both red-deer roe and the wild boar were plentiful; the elk still survived in the forests, with the bear, the wolf, the wild cat, and the beaver. Iron furnished them with tools, and the bones of their oxen and the antlers of deer were fashioned into useful implements. The terrets and the linch-pins show that they used wheeled transport. For weapons they had knives and spears, swords also, though fewer examples of these have been noted. Tacitus tells that the spear was also the common weapon of the Germans; few had swords.¹ As late as 1570, in the instructions sent by the Scottish nobility to the Archbishop of Glasgow, then Ambassador in France, it is stated that “the common vapnis of the cuntrey ar speirs.”² They had hand-made pottery, as well as vessels of wood and of bronze. They had a knowledge of metal-working. It is clear that at Traprain they were capable of producing small bronze trinkets, pins, and dress-fasteners, and probably they had some knowledge of enamelling. The weaving-combs and loom weights are evidence of the production of cloth, while the brooches and the armlets of glass and jet testify to their love of simple finery.

North of the Antonine Vallum—in Argyll and the Western Isles, and in the northern brochs—rough stone implements and objects fashioned from whalebone or antlers seem to have been substituted for iron. Altogether, compared with the people of Traprain or the western lake-dwellers, the population appears to have been poorer and less well-equipped. It is, however, possible that the absence of iron on most of the northern sites is due to the presence of the moist sea-atmosphere, which would contribute to its more rapid disintegration.

All the types of dwelling mentioned—the so-called forts, the caves, the lake-dwellings, the brochs and weems—in the south at least, must be associated with the need of protection or concealment. In the north of Scotland, as has been pointed out in the *Report of the Royal Commission on Ancient Monuments for the County of Sutherland*, the hut-circle is found without defensive works; while in the south, with rare

¹ *Germania*, c. 6.

² *Warrender Papers*, Scottish History Society, vol. I. p. 84.

exceptions, it never occurs except within the ditch and rampart of a fort or kindred structure. Indeed all over the south country the remains of ancient entrenchments on the hilltops are a familiar feature. The distinction between the two areas is of interest. Was it the coming of the Romans that made the native population seek for refuge or concealment? Did the invasion, thrusting itself through the south and into the fertile lands north of the Forth, cause a movement of the people out of the valleys to more remote dwelling-places? All of the types of habitation we have mentioned belong to the Iron Age; all can be linked with the period of the invasion. Dr Munro, writing of the crannogs of Ayrshire and Wigtownshire, remarks that "not only as regards the structure and local distribution of these islands, but as regards the general character of the relics, the analogy is so wonderfully alike that there is no difficulty in assuming that these lake-dwellings were erected by one and the same people for a special purpose and about the same time, or, at least, within a comparatively limited period."

The period, there can be little doubt, does more or less synchronise with the Roman occupation, but the evidence is insufficient to prove that it was the compelling force that brought into existence the crannogs, or indeed any of the types of native dwellings we have mentioned. On the whole, the evidence indicates that their erection preceded the advance of Agricola. The crannog is a somewhat complex structure. The laying of the mortised beams that formed its foundation could hardly be improvised at short notice by a people unacquainted with such constructions, and yet at Hyndford the pottery proves that the lake-dwelling must have been in existence early in the period of the Agricola invasion. At Traprain, in which we have an example of a hill settlement, there is evidence of a Bronze Age occupation. If our data are insufficient to prove that that occupation continued without interruption to the Iron Age, they at least show that the first occupation does not date from the Roman period. Admittedly, however, Traprain points to more settled conditions than many of the wind-swept entrenchments that crown the southern hills. As regards the brochs, they cannot have sprung up as a result of the Roman invasion. They are to be found in large numbers in some of the northern counties—in Sutherland and Caithness, in Orkney and Shetland. In the south they are clearly an intrusion. In the north, the brochs are found by the sea-shore and in fertile valleys; in the south, the few examples that have been identified stand on high ground. At Bow, Midlothian, the scanty remains of the broch are perched high on a hill top; at Torwoodlee, a few miles farther down the valley of the Gala, where the building stood within enclosing earthworks, the foundations show all the

distinctive features of these towers, and the same applies to the broch of Edin's Hall in Berwickshire. The evolution of this peculiar type of structure, which is only known in the Scottish area, must have been a gradual process. Before it reached the stage in which we find it in Caithness and the northern isles, with its massive encircling walls, the narrow entrance to its central court, flanked by a guardchamber, its staircase and galleries in the wall, it must have passed through simpler and earlier phases, some of which may perhaps be traced in the duns on the West Coast. At the Everley Broch, in Caithness, we find the fully developed structure, and in it a piece of a bowl, D. 29, a typical product of the first century. At Torwoodlee, though no pieces of decorated ware were present among the relics, there can be no doubt that the pottery and glass belong to the same early period. It thus seems probable that brochs were in existence long before the coming of the Romans.

Neither can the earth-houses have been suddenly improvised to make a refuge from the invading forces. Although both at Newstead and farther north at Crichton, in Midlothian, there was post-Roman construction of these underground dwellings—for in no other way can we account for the stones bearing the marks of Roman chisels employed to build them—the type is far older. They merely reproduce artificially the cave or the rock-shelter, the earliest habitation of primitive man. Tacitus states that among the German tribes the underground dwelling was constructed as a refuge from the winter and a place of concealment.¹

We cannot suppose that the advance of Agricola was made without resistance, and the account which Tacitus gives us of the battle of Mons Graupius proves that there existed among the Caledonian tribes sufficient cohesion to impel them to make common cause against the invader. Of the skirmishes, of the attacks which took place during the Antonine period we know nothing definitely, but the rebuildings of forts and the final evacuation in the reign of Commodus make it clear that the advance of Lollius Urbicus was not simply a military parade, followed by a peaceful occupation. Roman methods of warfare were ruthless. There was no distinction observed between the men fighting in the ranks and the non-combatant. The captives capable of bearing arms were carried away from their homes to serve their conquerors. Such was the course followed in the conquest of Rætia under Drusus and Tiberius. Such was the policy of Trajan, whose Roman column provides an illustration of the Dacian people—men, women, and children—herded into captivity. And, lastly, we have the colonies of Brittones, who made their appearance after A.D. 145, serving in Numeri on the German Limes. History tells us nothing of them, but it seems certain that they came

¹ *Germania*, c. 16.

from Britain, and it is more probable that they came from the North, following successful military operations, than from the comparatively pacified South. Whatever may have been the methods of warfare employed by the Roman armies in their advance, it is probable that it accelerated the movement towards the fastnesses of the hills, to the lakes, and to the caverns; indeed, many of the hill-forts stand on sites so high and exposed that they can hardly have been designed for permanent occupation.

Such few traces of contact between the Roman forces and the native population in the first century as can be noted are all from the country south of the Vallum. We should naturally expect to find them, if they exist, in the area traversed by the lines of advance or in the neighbourhood of the forts occupied by the invaders. And that is what actually happens. The crannog at Hyndford, the broch at Torwoodlee, and the hill fort at Traprain are all typically native sites. At Hyndford the contact is unmistakable; alone of the three sites it gives us the carinated bowl, D. 29. It is doubtful if there is any admixture of second-century material. At Torwoodlee the Sigillata is of the first century, and with it are fragments of what must have been a comprehensive series of vessels—beakers and cooking-pots, mortaria, jars and amphoræ, and, in addition, bowls of amber-coloured glass and large square blue bottles. The group seems all to belong to the same period. Is it possible that some Roman outpost once held the deserted tower, keeping watch from the hilltop on the movements of any native forces moving along the valley of the Gala, which then, as now, may have formed a line of communication between the South country and the Lothians? The suggestion may seem less fanciful when we remember that stones still lie on the summit of Ruberslaw, showing the diamond broaching of Roman chisels. On the other hand, the pottery and glass may have been the result of a descent on Trimontium, some six miles distant; but if so, it shows a discrimination in the choice of dishes, which argues a standard of life not without refinement. At Traprain, again, which covered a greater area and where all the indications point to a much larger population than on either of the preceding sites, the first-century pottery is present, yet it is a mere handful requiring to be carefully sought for among the more definite relics of the second century. But perhaps the clearest evidence of the nature of the contact between Celt and Roman is furnished by the broken swords, the picks, and other implements of deer-horn, the weaving-combs, the ornaments, and possibly the children's shoes, which came from the early levels at Newstead.

Leaving the districts which formed the theatre of the Roman operations, we can see traces elsewhere of the penetration of Roman products in the first century. Notably is this the case in the south-west,

on or near the coast of Dumfries and Galloway. The cup, D. 27, of the Borness Cave is probably of the first century. With more confidence we can assign to that period the fragment of the rim of a bowl, D. 37, found at Dowalton Loch. The Campanian patera from the same site, as well as those found at Friar's Carse, the decorated handle from Cairnholly, and the handle of the skillet found somewhere in Annandale, all appear

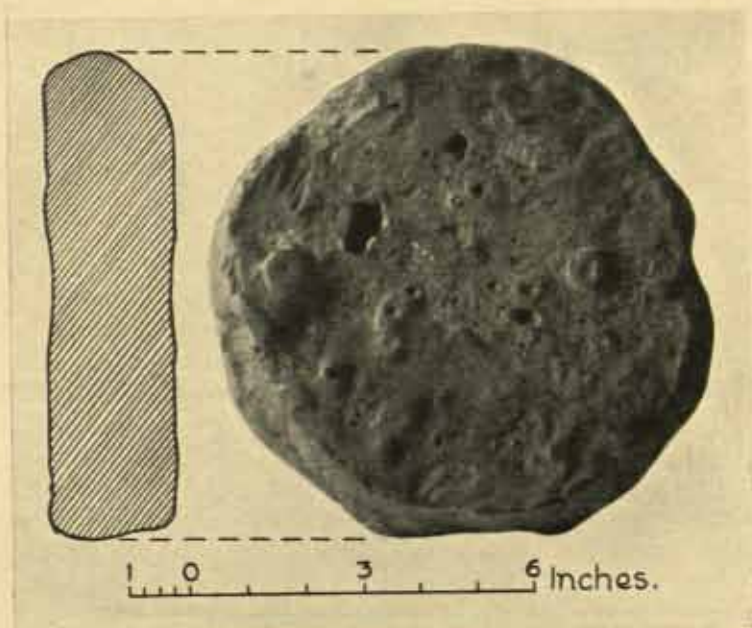


Fig. 37. Copper Cake from Carleton, Wigtownshire.

to be relics of the Flavian period, as is quite possibly also the cooking-pot from Barean Loch, Kirkcudbrightshire.

No part of Caledonia was more closely in touch with the South than the Galloway coast, and it is possible that before the end of the first century the traders were bringing their wares to it. The mass of almost pure copper,¹ about 36 lb. in weight (fig. 37), found at Carleton [No. 38A], in the county of Wigtown, may be a link with Wales. Similar rounded cakes of this metal have come to light in Anglesey, where copper was mined in the Roman period.² A considerable number of such finds are recorded. One of these, found many years ago, is said to have been stamped **SOCIO ROMAE**, crossed by a second stamp **NATSOL**. A more

¹ I am indebted to Mr Arthur J. Edwards for drawing my attention to this find, which for half a century had been included among the Bronze Age relics in the National Museum, and for recognising its real significance.

² *Arch. Journal*, vol. xxx. p. 59. See also Wheeler, *Prehistoric and Roman Wales*, p. 271.

recent find bore a circular stamp, with the letters IVL·S. But it must be admitted that the Cairnholly handle exhibits an elegance and refinement hardly to be expected in vessels destined to form part of a trader's lading, and it must not be overlooked that the presence of some, if not all, of the objects mentioned may be due to successful raids across the Solway Firth or to the plunder of retreating armies. The single fragment of a carinated bowl found in the Everley Broch in Caithness is suggestive of early voyages. It may, indeed, be a relic of the circumnavigation of the northern coasts undertaken by Agricola's fleet.

I have pointed out that while Flavian pottery is present at Traprain, much the larger proportion of the Roman pottery belongs to the Antonine period, or later. It would appear that on this site lying within twenty miles from Inveresk, where the site of a Roman fort is well known, and at no very great distance from the line of the Dere Street, as well as upon the Camphouse Fort high above the Jed, at Edgerston, which lies almost within sight of the Dere Street, the native population continued their occupation during the second century; and it is clear, at least in the case of Traprain, that occupation of the hill during any such extended period, as is indicated by both coins and pottery, must have involved freedom to cultivate their grain and to tend their herds in the more fertile country which lay around them. It thus seems evident that in places the native communities, or at least those who were esteemed less dangerous, were left in undisturbed possession of their dwellings, and that possibly the distrust and aloofness of the early period were replaced by less hostile relations in which some traffic sprung up between the *canabenses* and the native villagers. Similar conditions have been noted in Wales: there the Romans, holding the valleys with a network of forts, policed the country; but life went on in the native settlements on the hills, such as Moel Trigarn, Tre'r Ceiri, or Braich-y-ddinas, where the Roman potsherds mingle with Celtic remains. In Wales, as in Scotland, it seems to have been only in the second century that the hostility of the earlier period gave place to more tolerable relations.

But Traprain differs from the usual hill-fort perched high up on some lofty eminence, where the conditions of life must, in winter at least, have been exposed and uncomfortable, and on which, where excavation has been undertaken, the relics of the former inhabitants are usually scanty. The area examined during the seven seasons devoted to its investigation was comparatively small, and yet it yielded a collection of objects so large and so varied as to indicate a considerable native population established there, and one which was in touch with Roman civilisation for a period of probably two or three hundred years. Not only was the community obtaining supplies of Roman wares, but

there is evidence, from the finds of graffiti and the presence of an iron stylus, that some of them at least could write. There is no trace of any Roman buildings on the hill. No stones show diamond broaching as we see it on the blocks utilised in the rampart at Ruberslaw. It is not impossible that in the second century the Romans may have established more friendly relations with the dwellers in such communities as Traprain, and may even have drawn recruits from them to serve in some of their irregular formations, and that time-expired men may have returned to the hill. In the auxiliary cohorts the gaps in the ranks soon ceased to be filled from the original stock—Gauls, Thracians, or Vardulli, from which they had been levied, and they had to depend for recruits on the children of the camp or anyone who offered. We have evidence from Mumrills of at least one Briton, the soldier Nectovelius—a Brigantian by race—serving in a Thracian cohort. But, unfortunately, far too few of the hill forts that lie near the track of the Roman roads, and which are so familiar a feature of Southern Scotland, have been excavated. It is only when this has been accomplished that we may hope to gain any reliable information on the relations between the Romans and the native population.

Generally in the second century Roman trade assumed much larger proportions between the provinces,¹ and it is probable that in that period the penetration of Caledonia became more pronounced. There must have existed hill-tracks across the Cheviots long before the coming of the Romans. The same paths over which the ornamented metal-work of Late Celtic craftsmen was carried must have been followed earlier in the Bronze Age, and still earlier by the traffic that brought flint into the North. But doubtless the building of the Great Wall and the planting of a considerable military and civil population behind it attracted traders and gave a new impetus to adventure. On the German Limes recent research has made us familiar with the gateways through which the roads passed leading out to the unoccupied territory beyond, each guarded by its blockhouse, first constructed in wood and later in stone. It is not only at the forts and mile-castles on the Wall of Hadrian that the gates open to the North; we see it, for example, in the valley of the Knag Burn, to the east of the fort at Housesteads, where the double gateway through which the road passed, with its guardchambers on either side, has been traced. In Germany it is evident that traffic moved out and in through the frontier barrier, and we know from Tacitus that the German tribes were familiar with Roman coins, and, indeed, showed a preference for certain of the older issues. We cannot doubt that the gates in the Wall, as in the Limes, with their guardhouses,

¹ Rostovtzeff, *Social and Economic History of the Roman Empire*, p. 150.

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¹ Rostovtzeff, *Social and Economic History of the Roman Empire*, p. 150.

were constructed with a view to supervise the traffic passing through, and to collect the customs dues which on all the frontiers of the provinces were exacted from traders who entered. From the shelter of the Wall the pack-horses would follow in the wake of the troops, and ships would creep out from the Cumberland coast or from the Tyne, carrying their wares northward. In this connection we may note the inscription, unfortunately incomplete, found at Bowness in 1790, in which a trader, raising a stone to some god unknown, makes vows in the hopes that success may attend his voyage.¹

It is evident that the traffic, so far as seaborne, followed the east more than the west coast. As might be expected from the more fertile country lying inland, the finds are more numerous on the east. It is only on this coast that we note the presence of amphoræ, which occur in Midlothian, East Lothian, in Fife, and in Angus. They indicate that products of the South—oil or wine or salted fish—were carried to Caledonia. On the west, north of the Clyde, the signs of Roman influence are slight. There was some small traffic along the coast, but it has left few traces among the Hebrides.

Early Greek voyagers recounted strange stories of Britain. Demetrius of Tarsus told that many small and desolate islands lay off its shores, inhabited by demons and demigods, mild and gracious in their lives, but whose passing was accompanied by mighty storms and tempests.² Perhaps even in later days among Roman seafarers the rocks and currents of those uncharted seas had an evil repute. In any case, north of the Clyde wide tracts of country were barren and uninhabited, and there was no Roman penetration inland. This is also borne out by Sir George Macdonald's studies of coins found in Scotland. Out of a total of 109 finds covering the whole period of the Roman occupation recorded from native sites, there are no coins from the county of Argyll, Inverness-shire contributes a single late and rather doubtful find, Ross is credited with one find, but no coins are recorded from either Sutherland or Caithness. It is interesting to contrast this with the coin finds, both late and early, from native sites in the counties which must have been the theatre of operations.

From the counties of Dumfries and Lanark there are nineteen finds; from Roxburgh, Haddington, Midlothian, Stirling, Perth, Kincardine, and Aberdeen fifty-two. It seems plain that such traffic as did not come

... ONIANVS DEDICO
SED DATE VT FETVRA QVAESTVS
SVPPLEAT VOTIS FIDEM
AVREIS SACRABO CARMEN
MOX VIRITIM LITTERIS

Ephemeris Epigraphica, vii., 1086. Now in Tullie House, Carlisle.

² Plutarch, *De defectu oraculorum*, c. 18.

directly from the coast must have followed the tracks which had been employed by the military expeditions, and further, that in the second century the hill-forts, the caves, the crannogs, the earth-houses, and the northern brochs were still occupied, and that the seaborne traffic was reaching to the Orkneys.

So far I have dealt with the dissemination of Roman goods, but trade must have been bilateral. As we have seen, Roman coinage was to some extent in circulation in the North, but we may feel sure that barter played a prominent part. Strabo tells that Britain produced grain, cattle, gold, silver, and iron, and that these were exported from the island, as also hides, slaves, and hunting-dogs. Some of these products may have been drawn from Caledonia, but the country must have been much poorer than the South, and we have little to help us to define the local products which were given in exchange for pottery and glass, vessels of bronze, ornaments, or iron tools.

It seems probable that as the occupation settled down, local traffic would spring up between the garrisons and the native population. At Newstead, which lay some forty miles from the sea, a considerable deposit of oyster-shells was unearthed near the Bath House. The nearest oyster-beds must have lain on the Firth of Forth, and their produce must therefore have been brought across the Lammermoors from the North. To bring shell-fish from the Firth of Forth could hardly form part of the duties of the commissariat officers. It is much more likely that we have here an instance of a native product which was being exchanged either for Roman currency or for goods which the garrison could supply from their stores. Indeed, the Caledonian oysters seem to have had a reputation which survived the withdrawal of the legions from the country, for Ausonius writing in the fourth century mentions them.¹

No doubt there were other products which found their way to the garrisons or to the country south of the Great Wall. It is possible that gold was among them. The opinion has been expressed that in early times a very large quantity of gold was produced in Scotland.² Pearls certainly came from Caledonia, and were known on the Continent.³

¹ Sunt et Aremoricæ qui laudent ostrea ponti
Et quæ Pictonici legit accola litoris: et quæ
Mira Caledoniis nonnunquam detegit aestus.

Epist. ix. v. 35-7.

² Evidence of Mr R. W. Cochran-Patrick, *Royal Commission on Mining Royalties*, 2nd ed. 801. See also his *Early Records relating to Mining in Scotland*, Edin. 1878, p. xiii.

³ Nota Caledoniis talis pictura Britannis
Cum virides algas et rubra corallia nudat
Aestus, et albentes concharum germina baccas,
Delicias hominum locupletum, quæque sub undis
Assimulant nostros imitata monilia cultus.

Ausonius, *Mosella*, 68-72.

Up and down Scotland there are many remains of ancient iron workings, some of which must go back to prehistoric times. At Constantine's Cave in Fife there was evidence of early smelting of iron. There were remains of a primitive blast-furnace, and it was noted that ironstone nodules from the carboniferous strata in the neighbourhood had been used. The cave also produced remains of Roman amphoræ, and it is suggested that these great vessels contained southern products which had been exchanged for iron. It cannot be said, however, that archaeology has provided any such definite evidence of the export of metals from Scotland as it has given us from England. Corn was undoubtedly cultivated during the period of the Roman occupation, but, though native corn may have been bartered with the troops, it is unlikely that it formed any large part of the Caledonian exports. Live-stock, cattle, and horses were probably exported to the South. There can be little doubt that in early times there were many horses and ponies in the country. Hector Boece writing in the fifteenth century notes that in the country beside Loch Ness there are "many wild hors." John Major describing Scotland, in his *History of Greater Britain*, 1521, notes "that horses they have in plenty, these show a great endurance both of work and cold. At Saint John (Perth) and Dundee, a Highland Scot will bring down two hundred or three hundred horses, unbroken, that have never been mounted. For two francs or fifty duodenæ you can have one ready broken. . . . More hardy horses of so small a size you shall nowhere find." Now, at Newstead, Professor Ewart was able to reconstruct from the bones a number of types of horses possessed by the garrison or belonging to the dwellers in the *canabæ*. There were "Celtic" and "forest" ponies under twelve hands at the withers; there were slender-limbed and coarse-limbed ponies between twelve and thirteen hands high; and, in addition to these, there were finely bred horses fourteen hands high, like the modern Arab type, as well as heavier cross-bred animals. It is unlikely that all of these were imported from the South, because, as has already been pointed out, it is quite clear that the native population possessed horses, and used them both for riding and in harness. We have evidence of this at Traprain, at Blackburn Mill, at Eckford, and at Carlingwark Loch, as well as in the broch at Torwoodlee and in the crannog at Lochlee. We can imagine the garrisons at the mile-castles or on guard at the gates through the Wall watching the strings of horses and ponies filing through the gate, attended by strange, uncouth drivers, just as in modern times some Afghan horse-dealer might come down the Khyber Pass out of the wilds of Afghanistan. Cattle were common at Newstead, and hides must have been plentiful for exchange with the

traders.¹ It is quite evident from the remains of garments recovered from the Newstead pits, that leather during the Roman occupation was much more widely used for clothing than it is now. Furs were undoubtedly a medium of trade. Professor Ritchie, who has made an exhaustive study of the fauna of Scotland, points out that in early times there was much wild country, a plentiful stock of wild animals, and a cold climate which would induce better and thicker fur on our fur-bearers than in similar species from areas further South. Even as late as the sixteenth century fur-bearing animals were plentiful in Scotland. He cites a passage from Hector Boece, already referred to, who tells that merchants came hither out of Almany "to seek rich furrings," and of the many martins, beavers, stoats, and foxes to be found in the country beside Loch Ness.² It is probable that sealskins were an item in the traffic with the South. According to Tacitus, the Germans used for their clothing the pied skins of the creatures which the outer ocean and its unknown waters beget.³

Mr Ian Richmond reminds me that in the Roman import duties on skins a careful distinction is made between raw and worked skins, and that in the Diocletianic tariff, *sealskins* and *sea-cow* are very heavily taxed.⁴ As an indication of such trade, the terra-cotta found in the brooch of Dun an Iardhard, in the Isle of Skye, is of peculiar interest. It is clearly a model of a bale of goods securely corded ready for a voyage. Its contents must have been something not too small, yet not too heavy, seeing that a single cord fastened from end to end and again bound round it transversely, sufficed to hold it together—something, moreover, which did not require a separate covering. It seems probable that it represents a bale of skins.

Were the wild animals themselves exported? If we are to take literally the lines of Martial, the Caledonian bear had made its appearance in the circus:

Nuda Caledonio sic pectora prae-buit urso
Non falsa pendens in cruce Laureolus.

Martial, *Lib. Spectacul. Epigr.*, 7.

Lastly, what of slaves? After all, slavery was an institution so deeply rooted in the Empire that we may feel sure that from Caledonia, as from other lands bordering on the Roman frontier, men and women were carried away and sold into captivity.

¹ Professor Ritchie expresses the opinion that the export of wool is unlikely, as the native sheep of the period were of a very primitive type, with rather short wool.

² James Ritchie, *The Influence of Man on Animal Life in Scotland*, Cambridge, 1920, p. 254.

³ *Eligunt feras, et detracta velamina spargunt maculis pellibusque beluarum, quas exterior Oceanus atque ignotum mare gignit.*—*Germania*, c. 17.

⁴ Mommsen and Blümner, *Der Maximaltarif des Diocletian*, pp. 26-7, and Waddington, *Édit. de Dioclétien*, p. 24.

As to what happened after the withdrawal in the reign of Commodus we have little evidence to guide us. But the coin finds indicate that after the garrisons had recrossed the Cheviots, and the failure of the expedition of Severus, there was some gradual resumption of relations with the South; and that Roman products found their way into Caledonia; but the resumption may have come slowly—the break in the series of brooch types, the scarcity of coins of the early third century, are perhaps indications of this. A coin of Geta found near Ancrum, late coins said to have been found at Newstead, seem to indicate that the Dere Street was not altogether abandoned; but the testimony of Traprain is the most important. All through the latter half of the third century and through the fourth century, from Gallienus to Honorius, the hill continued to be occupied. Roman products were reaching it, and its population was employing Roman currency. The things they purchased came from a distance. Pottery came from the Rhine as well as from the south of Britain. Glass, and probably cutlery, were imported. Even towards the end of the fourth century the hilltop settlement was obtaining its dishes from Yorkshire kilns. North of the Vallum coins of the third and fourth centuries are met with. Sir George Macdonald instances four finds in Aberdeenshire, and we have that curious collection of pieces already noted recently found in the Covesea Cave in Morayshire. It seems probable that the same currents of trade that brought them also carried into the north the glass cup from Airlie; the playing-men from Waulkmill, Aberdeenshire; the gilt bronze fibula found on the shores of the Moray Firth; the Rhenish ware from the Keiss Broch in Caithness; lastly, the glass cup found at Westray in Orkney.

There are few corresponding finds from the west—the single coin of Constantius II. from North Uist, and the late hoard from Balcreggan in Wigtownshire. The pottery and glass are wanting. Probably the presence of Irish pirates, who in the third century were making their presence felt in Wales, had made the western route dangerous for seafarers. But with the fourth century in Britain we see not only the pressure from Ireland and the menace of new forces from the North-east, but added to it the growth of internal anarchy and unrest, which all combined must have brought trading to an end. Of that stormy time we could have no more eloquent reminder than the silver treasure found on Traprain—a pirates' hoard, with its splendid vessels hacked in pieces, crushed and doubled up ready for the melting-pot, telling plainly that there lies before us a relic of that time of travail, when the barriers were giving way, and the flood of barbarian peoples was sweeping across the Alps, when Britain had said farewell to the Legions, and Rome itself was abandoned.

II. INVENTORY.

The numbers which precede the entries in the Inventory correspond with those indicating the position of the sites on the map appended.

The objects mentioned, unless otherwise noted, are preserved in the National Museum of Antiquities, Edinburgh.

COUNTIES SOUTH OF THE ANTONINE WALL.

Midlothian.

1. *Bow Broch, Gala Water.*—This structure stands on a hilltop 1020 feet above the sea and 450 feet above the river Gala. Its identification as a broch rests upon its circular plan and the thickness of its wall. Fragments of a Roman amphora were found in 1890, also a piece of typical broch pottery. In 1921 an enamelled brooch in the form of a cock (fig. 34) was picked up among the stones near the top of the hill. (*Proc.*, vol. xxvi. p. 68; vol. lvii. p. 14, fig. 3; *Inventory of Ancient Monuments in Midlothian*, No. 233.)



Fig. 38. Bronze Stamp, Carrington, Midlothian. (1.)

2. *Carrington, Cockpen.*—A bronze stamp (fig. 38), $2\frac{3}{8}$ inches by $\frac{1}{2}$ inch, was found here with the name TVLLIAE TACITAE. It has a ring on the back, now broken, originally 1 inch in diameter externally. Such stamps were probably used for stamping the plaster stoppers of wine-jars, loaves of bread, and suchlike objects.¹ (*Wilson, Prehistoric Annals of Scotland*, vol. ii. pp. 60-61.)

3. *Currie.*—A bronze lamp, $4\frac{5}{8}$ inches in length, and a small figure of an eagle (fig. 39), $1\frac{1}{2}$ inch in height, from this site were presented to the National Museum of Antiquities in 1846. The latter appears to have been fixed on a base of metal or wood. The only other bronze lamp noted in Scotland was found in the fort of Camelon.² (*Prehistoric Annals of Scotland*, vol. ii. p. 60.)

3A. *Granton Castle, Edinburgh.*—A small piece of a Sigillata bowl, Type D.37 (fig. 1, no. 9), was picked up here in 1931.

4. *Kaimes Hill, Ratho.*—Fortified site. Hill-top showing lines of fortification and hut-circles 800 feet above sea-level. Fragments of grey pottery, portion of a denarius of Severus, and a piece of small

¹ *B.M. Guide*, "Greek and Roman Life," p. 169.

² *Proc.*, vol. xxxv. p. 400, fig. 34.

bronze ring from this site were presented to the National Museum in 1882. (*Proc.*, vol. xxx. p. 269.)

5. *Longfaugh, Crichton*.—A bronze patera (fig. 40) was found here about 1816 while digging for limestone, and with it a penannular brooch



Fig. 39. Bronze Lamp (♂) and Eagle (♂), Currie, Midlothian.

and a buckle,¹ both of bronze. The patera has a diameter of $5\frac{1}{2}$ inches at the mouth. The handle is $4\frac{1}{2}$ inches in length. Towards the end of it is a trefoil perforation. This trefoil perforation is occasionally found on the handles of pateræ from the workshops of Campanian founders, but there is no stamp to enable us to identify the maker. Longfaugh

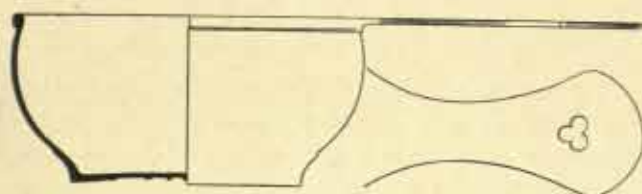


Fig. 40. Patera from Longfaugh, Midlothian, with view of top of handle. (♂.)

lies at no great distance from the line of the Dere Street, and there is little doubt that there was a Roman fort in the neighbourhood. (*Proc.*, vol. ii. p. 237; vol. v. Pl. v. p. 188.)

West Lothian.

6. *Inchgarvie, Dalmeny*.—The *Statistical Account*, 1791, notes that about forty or fifty years earlier considerable ruins were found here: "several silver medals of Marcus Antoninus, with a Victory on the reverse, also the handle of a copper vessel and the bottom of an earthen urn, with the word 'adjecti,' the rest obliterated." We have here obviously a record of a find of Sigillata. The stamp ADJECTI MA is recorded at

¹ *Newstead*, Pl. lxxvi. (1).

Wroxeter. (*Inventory of Ancient Monuments* (Midlothian and West Lothian), No. 332.)

7. *Linlithgow*.—In 1862 the neck and mouth of an amphora, found in digging a deep grave in the churchyard at Linlithgow, were presented to the National Museum. In 1925, portions of the rims of mortaria of first-century type and a fragment of an amphora were found in excavating immediately to the north of the Palace, where they are now exhibited. (*Proc.*, vol. iv. p. 398.)

8. *West Lothian*.—Found prior to 1865, but the exact locality is unknown, an enamelled bronze skillet (fig. 14), $4\frac{1}{2}$ inches in diameter, $2\frac{1}{2}$ inches deep. A flat handle is attached to the brim of the bowl. Dr Joseph Anderson describes the dish as follows: "It has a plain hollow moulding round the outside of the rim. Beneath this it is encircled by a band of enamel of a light green colour, traversed by a wreath, the stem and leaves of which are formed by the metal showing in relief on the ground of the enamel. Underneath this band, and separated from it by a narrower band of red, there is a wider band of dark blue, traversed with a wavy scroll, with serrated leaf-like ornaments of pale green in the alternate spaces of the scroll. Under this band, and separated from it by another band of red, is a vandyked ornament of bluish green, each vandyke of enamel alternating with one of metal. The upper part of the flat handle is decorated with heart-shaped and scroll-like ornaments in red and green on a blue ground." (*Proc.*, vol. xix. p. 45.)

East Lothian.

9. *Archerfield, Dirleton Caves*.—Two caves on the estate of Archerfield were excavated in 1908. They lie on the coast in close proximity, about one mile west of Fidra Point, and nearly opposite the island of Eyebrochy. In Cave No. 1 (The Smuggler's Cave) large numbers of bones of domestic animals and shells were found. Stone objects were few, but included a quernstone. Of iron there were a spear-head and a knife. There were also deer-horn picks and some objects of bone, fragments of glass armlets and of native and Roman pottery, including four small pieces of Sigillata from the bottom of a decorated bowl, D. 37, possibly belonging to the first century. On the other hand, one of the pieces comes from the side of a decorated bowl, D. 37. In the latter, the decoration appears to have been divided into panels by a winding scroll, possibly without leaves, a common device of the East Gaulish potters. To right of the scroll is a small S-shaped ornament lying horizontally, and beyond it the hind leg of a lion or other wild animal running to right. The decoration suggests the second century. Though illustrated in the report of the excavation, it is not now in the

Museum. The only piece of coarse ware is the neck of a small jug, to which a single handle was attached. It is of fine texture and of a greyish colour. From Cave No. 2 came a small piece of the side of a shallow black pan,¹ with lattice-work decoration. (*Proc.*, vol. xliii. p. 243.)

10. *East Lothian*—A handle of a patera in the National Museum is labelled as having been found in East Lothian. The surface is much worn. The maker's stamp, characteristic of the second century, begins with a C and appears to end as usual with F(ecit). (*Proc.*, vol. lxii. p. 252.)

11. *Ghegan Rock, Seacliff, Whitekirk. Kitchen-midden*.—This isolated rock on the coast lies about 4 miles to the east of North Berwick. In 1870, excavation brought to light the foundation-walls of a building and a kitchen-midden. Animal bones were found in large numbers, as well as a few human bones. The relics include a number of objects of bone, needles, pins, a dress-fastener, a comb with decoration recalling the crescent and the spectacle symbols characteristic of early sculptured stones in Scotland, one playing-man of a greenish serpentine, coarse native pottery, and part of the neck and handle of a Roman amphora. There appears to be a cave a few hundred yards to the south of the rock. (*Proc.*, vol. viii. p. 372.)

12. *Tranent*.—Found in the debris of an old house near the church of Tranent, an oculist's stamp of greenish steatite in the form of a parallelogram, 2½ inches in length. It is inscribed L VALLATINI APALOCROCODES AD DIATHESES L VALLATINI EVODES AD CICATRICES ET ASP(e)RITVDIN(es). Lucius Vallatinus mild *crocodes* for affections of the eyes and *evodes* for cicatrices and granulations. Collyrium under the name of *evodes* was used for eye diseases. *Crocodes* contained saffron as one of its principal ingredients. A stamp in Sigillata of Q Julius Senex, found in London, was used for a preparation of CROCOD(es) AD ASPR(itudinem). It is attributed to the second century.² (Simpson, Sir J. Y., Bart., *Archaeological Essays*, vol. ii. p. 229.)

13. *Traprain Law, Prestonkirk—Fortified Site*.—Traprain Law is an isolated rocky hill rising to a height of 710 feet above sea-level, and 360 feet above its base. It lies within 5½ miles of the seacoast. The fortifications, of which there are evidences of more than one system, practically contain the whole hill. Traprain Law, which has probably given more important archaeological results than any native site in Scotland, was excavated by Mr A. O. Curle and the late Mr J. E. Cree. The work, which had been carried on in 1914 and 1915, was interrupted by the War, but was resumed in 1919 and continued to 1923. The site appears to have been occupied in the Bronze Age, but the more intensive occupation

¹ *Newstead*, Pl. xlvi. fig. 49.

² *B.M. Guide*, "Roman Britain," p. 34.

belongs to the Iron Age, and probably began towards the end of the first century A.D. The huts within the fortified enceinte seem to have been roughly circular, with walls of wattle-and-daub and rectangular stone hearths. The presence of nails and holdfasts indicate that squared woodwork was employed in their construction. The finds generally are typical of those from native sites occupied during the period of the Roman occupation. Especially from the lower levels the sherds of thick hand-made ware—native pots—are numerous. The querns found are of native types. The Niedermendig stone so commonly employed for millstones on Roman sites is absent. Crucibles and moulds for casting bronze were frequently met with. It is evident that pins and dress-fasteners were cast on the spot, also armlets of glass, which are numerous. On the other hand, in all the levels of the site Roman pottery was found.

Coins are comparatively numerous, and, as already mentioned, divide themselves into two groups: the earlier, twenty in number, beginning with a Legionary denarius of Mark Antony and ending with issues of Pius and Faustina the Elder; the later, numbering twenty-nine pieces, beginning with a coin of Gallienus and ending with one of Honorius.

The number of fragments of Sigillata is considerable. The potters' stamps identified are DAGOM[ARUS], CHRESIMI, AL[BVCI]ANI IMANNI[O], and GATUS or CATUS. The first two of these potters were probably working in the Flavian period. Definitely first-century pottery represents a very small proportion of the finds. There is the cup D. 27, a fragment of the broad rim of the dish found in the early ditch at Newstead (Curle 11) (fig. 41, no. 1), and possibly a piece of a globular vase D. 67 (no. 7), and pieces suggesting six or seven bowls, all probably of Type D. 37, as follows:—

A small fragment of the rim, hard and bright, with an ovolo having a long tassel (no. 2).

A small fragment showing a band of S-shaped ornament of the Flavian period (no. 3).

Three pieces from a bowl, probably of Lezoux ware (nos. 4, 5, and 6). On the larger of these is a figure of a lion running to the right above a row of baton-like ornaments. Behind the lion, on the left, is the fan-tailed plant—a common Flavian motif.¹ A smaller fragment shows the remains of a straight chevron wreath, which evidently formed the lower border of the design.

Fragment of a bowl decorated in panels. In a central panel is a figure of Priapus, beneath it a bird; on either side panels, each having figures of Sileni (Déch. 323). The execution is poor. The Silenus type belongs to

¹ Wheeler, *The Roman Fort near Brecon*, p. 155, 5, 90.

La Graufesenque, but it also occurs on bowls from the Bregenz cellar find, which the decoration resembles in its general character. The Bregenz pottery dates from the end of the first century and beginning of the second century.



Fig. 41. Fragments of Sigillata from Traprain, East Lothian. (5.)

Among the Antonine pottery the variety of undecorated Sigillata dishes which can be identified is small. There are the platters D. 18-31, the shallow bowl with lotus-bud ornament, D. 35 or 36, as also the bowl D. 38.

There are the following fragments of decorated bowls:—

Three pieces, probably all belonging to the same bowl, with medallion decoration (nos. 8, 9, and 10). One shows part of the name of Cinnamus; a second, part of an erotic motif within a large medallion, which is

sometimes found on the bowls of this potter (*cf.* "Mumrills," fig. 77, 5). The third is another medallion with a figure of a gladiator (Déch. 117).

Fragment of a bowl decorated in panels (no. 11), with late cruciform ornament embodying the Lezoux foliage motif (Déch. 1153). On the left, part of a figure facing to right.

A small fragment shows an ovolo border (no. 12). Beneath it is a beaded line, and depending from it a leaf turned to right. The ovolo is of degraded form, the tassel being represented by a projection at the lower right-hand corner of each egg. It resembles the ovolo of one of the pieces found at Mumrills (fig. 80, no. 48), which is described as perhaps East Gaulish or Late Lezoux. In the Mumrills example a series of leaves, each with a curved stem, is a feature of the design. In the Traprain fragment there is a single leaf with a curved stem. It is possibly East Gaulish.

A small fragment shows the lower margin of the decorated zone, with a bush motif rising from it (no. 15). This design occurs among late pottery at Walheim (*O.R.L.*, Kastell Walheim, Taf. III. fig. 2). It is probably East Gaulish.

Fragment with a very degraded ovolo (no. 13). It is evidently derived from a wreath employed by East Gaulish potters. We find it forming the lower border of the design in a late fragment from Niederbieber (Taf. VII. fig. 33). The decorative band has been divided into panels, and there is a winding scroll poorly designed, a feature which is not uncommon on East Gaulish bowls. On the lower side of the scroll is a figure of a gladiator.

Fragment showing a somewhat clumsy ovolo and foliage design (no. 14).

Small fragment showing part of a border of three cusped leaves (no. 16).

Portion of the side of a large bowl showing within a large medallion animals in movement.

Fifteen pieces of Sigillata were found cut into circular discs, as if for pieces in a game. Nine fragments had been shaped to form whorls.

Among the coarse ware belonging to the period of the Roman occupation there is little that can be identified as belonging to the first century. Fragments of a cooking-pot of red ware, with a rough surface externally, resembled similar ware found in the broch at Torwoodlee. There is also a soft buff ware which appears in the form of jugs in the early period at Newstead, but in the absence of rims it is difficult to date it. The majority of the broken dishes appear to belong to the second century or later.

There are the cooking-pots and shallow pans with lattice-work decoration common among the Antonine pottery at Newstead. There

is Castor ware—white, with a brown slip on the surface, and dusted with small grains of broken pottery—but the “hunt cup” type of ware is not represented.

There is a coarse, yellow ochre-coloured ware with a wave-line ornament impressed upon it. The National Museum has a bowl, found at Birrens, of the same material, which indicates that it may be regarded as Antonine.

Mortaria are comparatively rare, possibly not more than two fragments; both are of second-century type. The large round-bellied amphora is represented by only two pieces.

Pottery of the third and fourth centuries is present. The most characteristic product of this period is the Rhenish ware, with a black or red slip, and decorated with scrolls in white engobe. Among the other types is an orange-red ware covered with a poor glaze, probably from Rheinzabern. There are the remains of a mortarium in this material, with a flange projecting about half an inch below the rim, approximating to D. 43, and of another vessel derived possibly from D. 36. Red ware, well washed and coated with pink slip, one piece showing horizontal lines of rouletting, is present. The type is found at Sandford, Oxfordshire, and Ashley Rails, New Forest.

The neck of a bottle of buff ware, with brown metallic slip, may be assigned to the fourth century. It appears to belong to the wares which might be made in the New Forest potteries or at Castor.

There are also pieces of one or more jars of grey ware with counter-sunk handles, as well as of flanged bowls which were probably manufactured at the Crambeck potteries in Yorkshire, which were widely distributing their wares throughout the north of England at the end of the fourth century; and there are remains of at least two vessels of the black-pitted ware, also characteristic of the end of the fourth century, which is found at Huntcliff.¹ Among the pottery is a small sherd of grey ware. On the inside surface are incised in Roman characters the letters IRI and a stop (fig. 42). Other pieces belonging to a jar of similar character were found, and it is assumed that the letters were incised on the hill itself. On the under side of the bottom of a vessel bearing the stamp CHRESIMI were the remains of a name scratched upon it . . . TONINUS. In this connection we may also note a small piece of stone, 1½ inch in its greatest length, having the letters A, B, C, and a portion of D incised in Roman characters on the surface (fig. 42).

Among the glass is a small piece of the rim of a pillar-moulded cup of glass imitating agate, which possibly belongs to the first century.

¹ *Journal of Roman Studies*, vol. ii, p. 228.

A number of fragments of bottles of blue and green glass, and one piece of a reeded handle common in these vessels, were found, also a fragment of a vessel of clear glass, decorated with glass rods applied

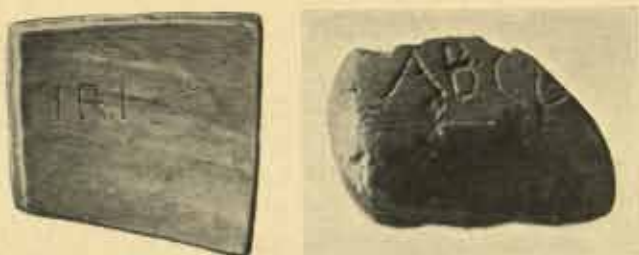


Fig. 42. Fragments of Pottery and Stone showing incised letters, Traprain. (f.)

to the surface (fig. 43). This probably belongs to the second century. Among the smaller fragments is a piece of bright red translucent glass. The red colour is flashed upon a clear body.

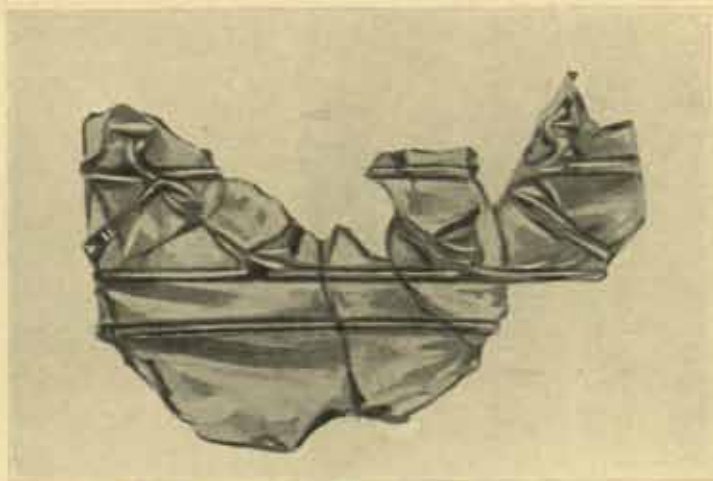


Fig. 43. Fragment of Glass Vessel, Traprain. (f.)

The late importations to the site are represented by a fragment of a clear glass cup, with the head of a figure engraved by means of a wheel (fig. 6), and a small triangular piece of glass, showing painted decoration (fig. 5, no. 1), belonging to one of those cups often ornamented with scenes from the circus, which appear to have been produced on the Rhine, and some of which found their way to Denmark, where they have been recovered from graves.

Bow-shaped and dragonesque brooches of bronze are comparatively numerous; altogether some forty-five specimens were discovered. A series of typical examples is brought together in fig. 31. Many of the brooches show enamel decoration; on the other hand, the small enamelled



Fig. 44. Bronze Pierced Metal-work, Traprain. (1.)

disc brooches, which were comparatively numerous at Newstead and are found in considerable numbers on the Continent, were represented only by a single example. The seal boxes, which may be connected with these brooches through their decoration, were wanting. The simple, undecorated bronze brooches of safety-pin type are absent, but two very primitive iron examples with bronze pins were discovered. There is one brooch of the crossbow shape, characteristic of the third or fourth century, and one silver brooch of Teutonic type (fig. 33) was found with the silver treasure mentioned later.

The terminals for straps or girdles, which were common at Newstead, are absent. The single example of ornamental pierced metal-work, which

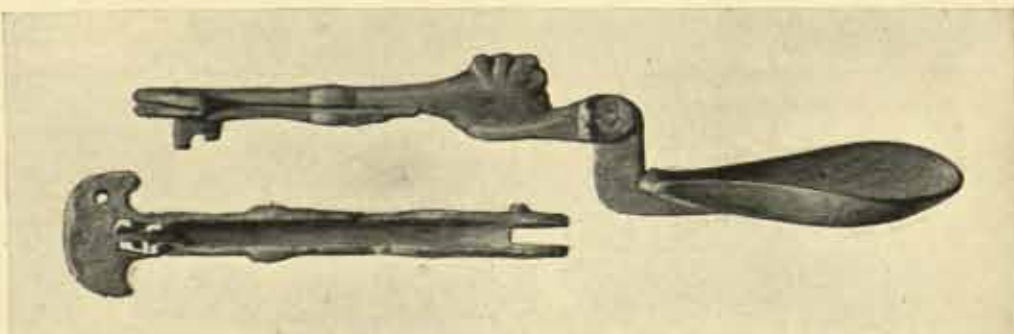


Fig. 45. Folding-spoon of Bronze, Traprain. (1.)

displays the well-known trumpet pattern (fig. 44), forms a link with Central Europe; terrets and other harness-mountings, and dress-fasteners with petal-shaped motive, typical of Celtic metal-work, of which we have examples among the harness-mountings from Newstead and from Middlebie, Annandale, are comparatively numerous.¹ A typically Roman find is a folding-spoon of bronze (fig. 45), assigned to a third- or more probably fourth-century date, which has its parallels in finds from London and Wroxeter. There is also a handle which appears to have belonged to a small patera. Among the iron objects are spear-heads,

¹ *J.R.S.*, vol. lli. Pls. i. and ii.

dagger-blades, portions of sword-blades, and what were probably mountings of scabbards. Three double-edged knives were found, one of which still retains its bronze handle (fig. 46). Knives of similar shape but with bone handles, closely related in design to the Traprain examples, are among the finds from the Gallo-Roman cemeteries at Vermand. The suggestion that some of the inhabitants could write,

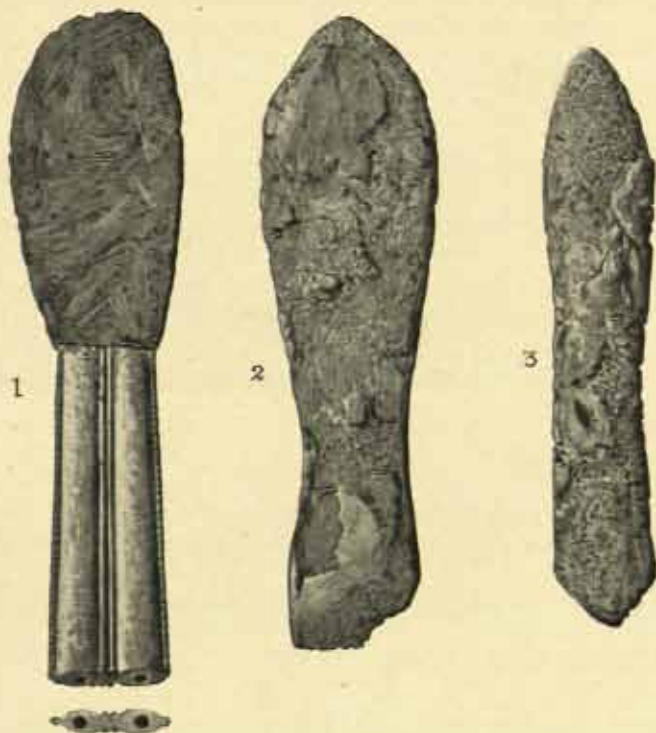


Fig. 46. Iron Knives, one with bronze handle, Traprain. ($\frac{1}{2}$ ca.)

which comes from the graffiti on sherds of pottery and letters cut on stone already mentioned, is strengthened by the presence of an iron stylus. The tools reveal the husbandman—sickles and ploughshares, the shears and hoe, the ox-goad and the linch-pin; but as direct evidence of the presence of Roman products, all other discoveries were eclipsed in 1919 by the find of the remarkable treasure of silver vessels which had been concealed on the Traprain hill-top (fig. 47). It lay crushed, broken, and doubled up in preparation for the melting-pot. The total amounts to more than 160 pieces, weighing over 770 oz. troy. In association with it were found the brooch (fig. 33) and belt-mountings, which belong to the period of the Teutonic migrations of the beginning of the fifth century,

and four silver coins—one of Valens (364-75), one of Valentinian II. (375-92), and two of Honorius (395-423). (*Proc.*, vols. xlix. p. 139; l. p. 64; liv. p. 54; lv. p. 153; lvi. p. 189; lvii. p. 780; lviii. p. 241; lxv. p. 386; A. O. Curle, *The Treasure of Traprain*, Glasgow, 1923.)



Fig. 47. The Silver Treasure from Traprain.

Berwickshire.

14. *Blackburn Mill, on the Water of Eye, near Cockburnspath.*—Two large vessels of bronze were found in a meadow adjoining the stream; the larger measured 15 inches in diameter by 9½ inches deep (fig. 21); the smaller, 11½ inches in diameter by 6½ inches deep. They appear to have been inserted one within the other. They contained some seventy objects in bronze and iron (fig. 22). These include fragments of cauldrons, a heavy chain with hooks for suspension, a number of tools, a large knife, an adze, gouges, a peg-anvil, a millstone-pick, a sickle, part of a pair of shears, a spoon, a hoe, a ploughshare, a hippo-sandal with heavy studs in the sole, a linch-pin, a key, a lampstand, handles of vessels, a patera of bronze, and a miscellaneous collection of fragmentary objects. The patera (fig. 12, no. 1), which is incomplete, having lost its handle, has been described by Mr R. C. Bosanquet, who assigns it to the Antonine period. This hoard is sometimes incorrectly described as the Cockburnspath find. (*Proc.*, vol. i. p. 43; lxii. p. 246.)

15. *Earnsheugh—Native Fort.*—In the excavation of hut-circles within a native fort situated on one of the highest cliffs on the Berwickshire coast, west of St Abb's Head, a "head-stud" brooch in bronze decorated with red and blue enamel was found in 1931. It is

dated as belonging to the latter half of the second century. (*Proc.*, vol. lxvi. p. 181, fig. 23.)

16. *Lamberton Moor, Mordington*.—A hoard of bronze vessels and ornaments was found by a labourer digging drains in a moss here about 1845. The objects, mostly in a fragmentary condition, included portions of four Roman pateræ, a beaded neck-ring (fig. 48), four bowls of beaten bronze, two small spiral rings, two enamelled "head-stud" brooches, and a dragonesque brooch, also enamelled. Of the four pateræ, only handles, bottoms, and rims have survived. Three of the handles are entire. One of them shows the common thyrsus design. Round the rim of one of these vessels there is a band of chased ornament, recalling the decoration of the patera forming part of the find from Blackburn Mill [No. 14]. The four smaller vessels of bronze found with the pateræ are also incomplete. They are of thin metal, with globular bottoms. Three of them show a diameter of about 3½ inches at the lip, which is slightly everted. The fourth is rather larger, and has a band of beaded ornament round the shoulder. The neck-ring, which is certainly a native product, measures internally 5 inches by 5½ inches in diameter. Three-fourths of the circumference is composed of a plain rod of solid bronze. The beaded part is formed of eight graduated beads strung on an iron rod. The brooches indicate that the find belongs to the second century. (*Proc.*, vol. xxxix. p. 367.)

17. *Whitehill, near the Village of Westruther*.—A Roman bronze patera (fig. 12, no. 2) was found here in 1882 in digging a drain. Mr Bosanquet regards it as of provincial rather than Italian manufacture, and assigns it to the second century. (*Proc.*, vol. lxii. p. 246.)

Roxburghshire.

18. *The Camps, Camphouse Farm, Edgerston—Native Fort*.—The fort stands on a high promontory between the valleys of Jed Water and Kaim Burn, about 750 feet above sea-level, and some 300 feet above the streams at its base. In excavating the hut-circles on this site in 1931 Mrs Oliver found fragments of the rim of a bronze vessel, bronze finger-rings, dress-fasteners, fragments of glass armlets, querns, whorls, pounders, rubbers, and native pottery; also a blue glass melon-shaped bead, a portion of a Sigillata cup (Pudding Pan Rock, Type 3) with a hole drilled in it, showing that the vessel has been mended; a fragment of the rim of a platter, D. 31; a small fragment of a rim, which may have come from a cup, D. 35 or 36; and a portion of a black pan (*Newstead*, Pl. xlviii., Type 42). Unpublished. The objects are preserved at Edgerston, Jedburgh.

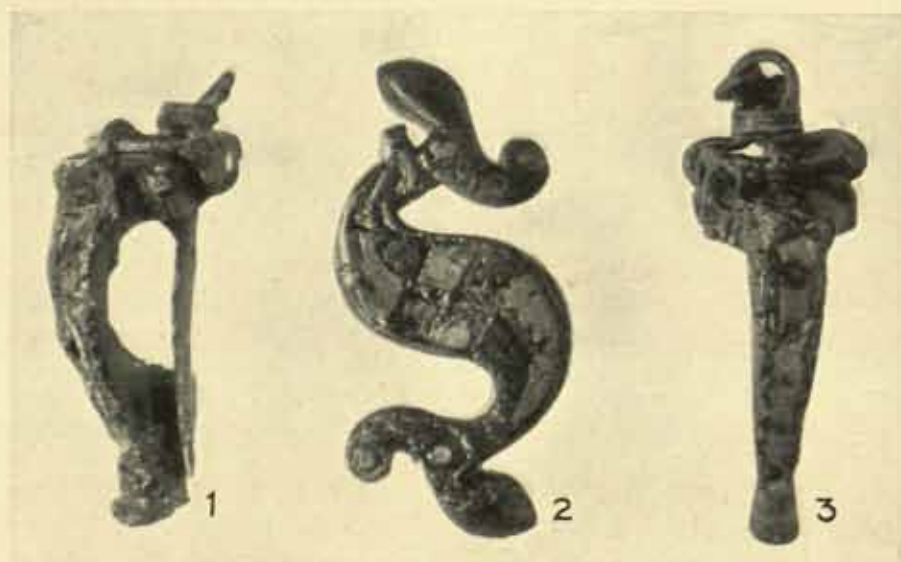
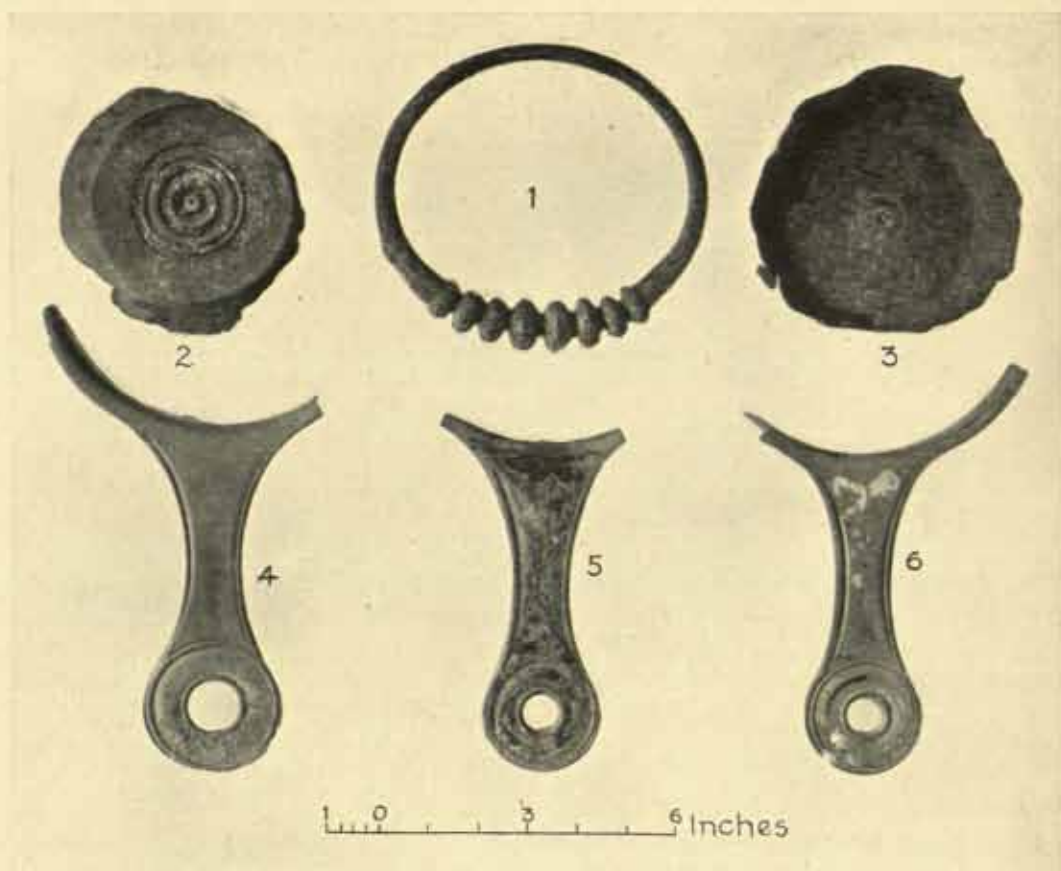


Fig. 48. Remains of Bronze Paterae, Beaded Neck-ring, and Brooches from Lamberton Moor, Berwickshire. (†.)

19. *Denholm Hill Farm*.—A bronze brooch covered with white metal in the form of a swastika (fig. 35) was found in 1930. (*Proc.*, vol. lxxv. p. 16.)

20. *Easter Wooden Farm, Eckford*.—In 1883, in the field known as "Toddle Rigs" (No. 492 O.S. Plan, Eckford) on this farm, a workman, in digging, unearthed a hoard of iron and bronze objects (fig. 50). Altogether there appear to have been twenty-five pieces. The iron objects include a farrier's tool, known as buttress; part of a heavy hinge, an iron cylinder, possibly part of a padlock; a linch-pin, three hammers, probably a stone-worker's tools; an adze, a bill-hook, a ploughshare, and a number of much-rusted fragments. Among these appear to be pieces of a hanging lampstand and a gridiron. The objects in bronze were a terret and an enamelled cheek-piece of a bridle (fig. 49). The find is unpublished.



Fig. 49. Enamelled Cheek-piece for a Bridle, Eckford, Roxburghshire. (†.)

21. *Milsington, Roberton*.—Found in 1820, probably in draining a moss, the foot and lower part of the right leg of a gilded bronze statue (fig. 27), and with it an oblate spheroid object, also of bronze, believed to have formed the base of a statuette of Victory. The leg, which has been hacked off below the knee, stands $19\frac{1}{2}$ inches high. The foot is entirely covered by a shoe, with a strong sole, $\frac{1}{2}$ inch thick, a form of *calceus*. The property of the Duke of Buccleuch, K.T., deposited in the National Museum of Antiquities. (*J.R.S.*, vols. xvi. p. 1; xvii. p. 107.)

22. *Overwells, Jedburgh*.—Found on a field on the farm of Overwells, known as "Pity Me," a Roman intaglio of onyx which had been set in an iron finger-ring. The gem is engraved with the figure of a satyr carrying a bunch of grapes. The field is near the Dere Street, the Roman road running north towards Newstead and a short distance south of the fort of Cappuck. (*Proc.*, vol. xlvi. p. 476.)

23. *Palace, Crailing*.—About $1\frac{1}{4}$ mile from the line of the Dere Street there was found in 1849, in cutting drains, a Roman bronze patera, $7\frac{1}{2}$ inches diameter, $4\frac{1}{2}$ inches deep. The form is similar to that of the Campanian patera found at Dowalton Loch Crannog, Wigtownshire,

and may possibly date from the end of the first century. (*Proc.*, vol. iv. p. 597.)

24. *Ruberslaw—Fortified Site.*—Hill-top showing lines of fortification, situated in the angle formed by the confluence of the Teviot with its tributary the Rule, 1392 feet above sea-level. Among the debris of walls on the summit a number of blocks of sandstone have been

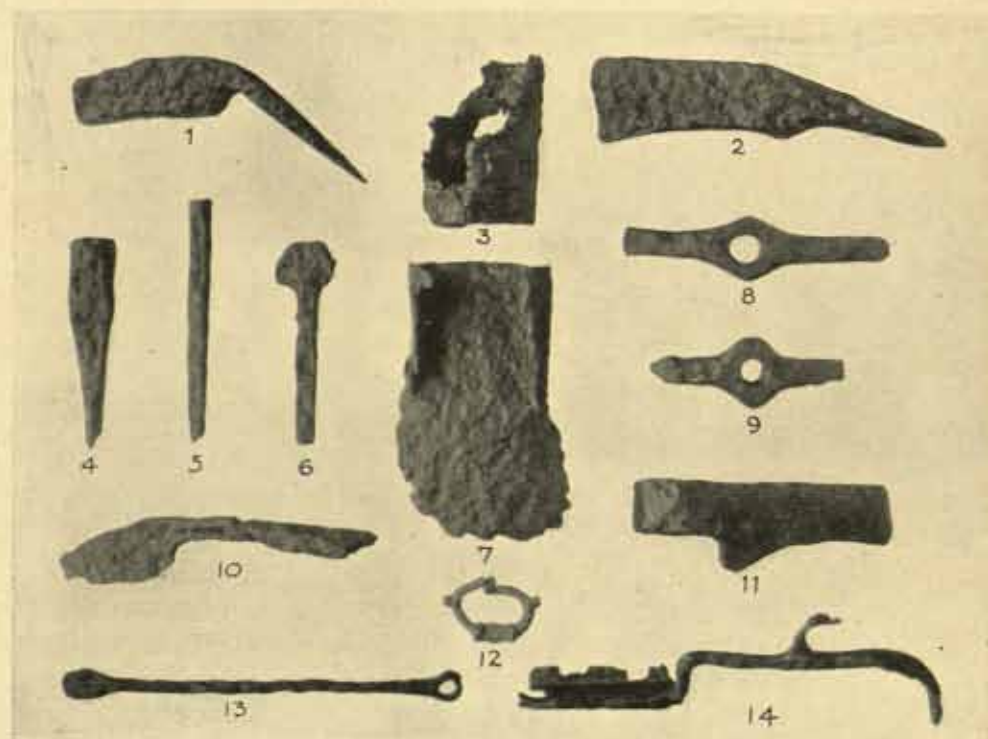


Fig. 50. Iron Tools and Bronze Terret, Eckford, Roxburghshire. ($\frac{1}{2}$.)

noted, showing characteristic Roman tooling. A hoard of bronze vessels (fig. 51) was found in 1863, in the upper portion of the hill on the south side, by a workman digging drains. The vessels are in a fragmentary condition. There are remains of at least two pateræ—the handle of one of these has the thyrsus design, the other is plain—two or more flat-bottomed vessels, and the handle and probably fragments of a jug; the handle is decorated with two figures of dwarfs in high relief. The upper figure has its right foot placed on the head of a bird of prey, probably an eagle, while the left, raised, rests on an object which may represent a cloud. The projections

which grasped the rim of the vessel take the form of the heads of long-beaked birds. The handle shows traces of silver plating. The find is preserved in the Municipal Museum, Hawick. (*Proc.*, vol. xxxix. p. 219.)

Selkirkshire.

25. *Rink, Galashiels—Defensive Construction.*—A bow-shaped fibula brooch of bronze was picked up in April 1929 on the ground outside a native fort on the farm of Rink. The brooch is of the "head-stud"



Fig. 51. Remains of Bronze Vessels, Ruberslaw, Roxburghshire.

type. It has been crushed and bent; part of the pin is wanting. (*Proc.*, vol. lxiii. p. 365.)

26. *Torwoodlee Broch, Galashiels.*—This broch stands within lines of earthwork some 800 feet above sea-level and 300 feet above the Gala, which flows in the valley below on the north and east. There were found during excavations undertaken in 1891, a bronze terret, a stud or button also of bronze, decorated with red enamel; a fragment of a glass armlet, and two pieces of coarse, probably native, pottery; a small brass coin of Vespasian, and the following fragments of Roman pottery. Two pieces from the bottom of a platter of Sigillata, possibly the same vessel, either Type D. 18 or D. 15-17. One small piece of the side of a platter, D. 18. One piece of the side and rim of the platter D. 15-17. Two small pieces of the rim of a cup, possibly D. 33, but the ware is of

a brownish colour with little glaze. Remains of a small jar of hard reddish-brown ware, with rough surface, the exterior of a blackish colour. Remains of two, probably three, jars of a whitish clay, but fired a bluish black. Pieces of two vessels ornamented with horizontal flutings. Pieces of buff ware representing large storage vessels such as were found among the early pottery at Newstead, including one fragment of a neck. There are also remains of mortaria of a soft whitish ware, and of amphoræ. In addition to the pottery were fragments representing five or possibly six glass vessels. Two were portions of amber-coloured cups or shallow bowls. The outer surface of these vessels shows the glass bent back so as to form a hollow rim (fig. 52). There are also remains of two or three large blue glass bottles. The *Sigillata*, with the rest of the pottery and glass, appears to date from the first century. (*Proc.*, vol. xxvi, p. 68.)

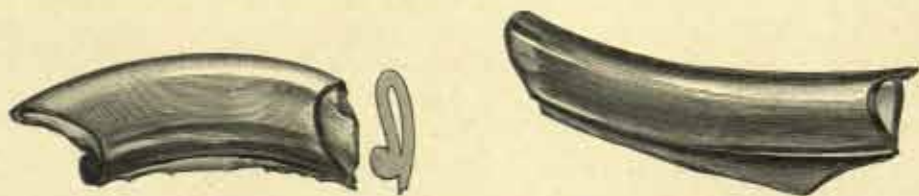


Fig. 52. Rims of Glass Bowls, Torwoodlee, Selkirkshire. (4.)

Peeblesshire.

27. *Hawkshaw, Tweedsmuir.*—In 1780, the Rev. T. Mushet presented to the Collection of the Society of Antiquaries of Scotland, which formed the nucleus of the National Museum of Antiquities, a marble head (figs. 28, 30), rather more than life-sized, supposed to be that of a priest, which had been ploughed up not far from the ruins of an old chapel within half a mile of the Tower of Hawkshaw, in the parish of Tweedsmuir. The Tower of Hawkshaw is marked on Blaeu's Map of Peeblesshire as standing on the banks of the Hawkshaw Burn. According to Armstrong, *Companion to the Map of Tweeddale* (1775), there was a chapel and burial-ground near Hawkshaw, of which faint vestiges were visible in the eighteenth century. He notes that "the head of a monk in statuary was found here some time since." The head appears to be Roman but exhibiting Celtic characteristics, and is probably Trajanic. The find does not appear to have been published in this country; it has recently been illustrated in the *Monuments et Mémoires* of the Académie des Inscriptions et Belles-Lettres, Tome xxxi.

28. *Peebles.*—A brooch, with the bow decorated with enamel, with a rectangular plate inserted between the head and the head-loop, found

near Peebles, is in the National Collection. Another brooch of this type was found at Traprain (fig. 31, no. 11).

29. *Stanhope, Stobo*.—Found in 1876, beneath a large stone on a rocky hillside immediately above the farmhouse of Stanhope, and not far from the top of the hill, which rises to the height of some 1300 feet above sea-level, a massive bronze armlet of Late Celtic type, two buckle-like bronze objects, oval in shape, with a square projection on one side, richly ornamented with curved trumpet-like scrolls and projecting bosses, probably harness mountings and a small Roman patera, 6 inches in breadth across the top, $3\frac{1}{8}$ inches in depth. (*Proc.*, vol. xv. p. 316.)

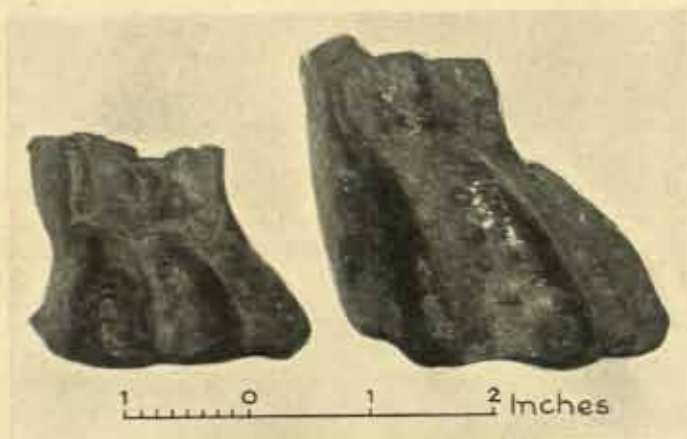


Fig. 53. Bronze Feet from Annandale, Dumfriesshire.

Dumfriesshire.

30. *Annandale*.—In the National Museum are two heavy three-toed bronze feet (fig. 53), and the handle of a bronze skillet (fig. 13), presented in 1846 by Mr E. W. A. D. Hay. Beyond the information that they came from Annandale nothing is known about the circumstances of the find. The feet, which are dissimilar in size, must have belonged to furniture or to tripods such as we see on the bronze handle from Cairnholly (fig. 8). Somewhat similar examples are illustrated by Reinach, *Bronzes figurés de la Gaule romaine*, pp. 478–80. The handle of the patera is $4\frac{1}{2}$ inches in length, and terminates in the head of a hound. A band of silver plating forms a collar round the neck of the animal, while on the lower side of the handle, where it joined the bowl, are remains of a palmette ornament, also in silver. It was no doubt attached to a round, rather shallow dish—a sacrificial vessel. It is the only example of a type generally associated with finds

dating from the first century which appears to have been noted in Scotland. Unpublished.

31. *Auchenskeoch, Durisdeer*.—In Dr Grierson's Museum, Thornhill, is a patera from this site, $6\frac{1}{2}$ inches in diameter, $3\frac{1}{4}$ inches in depth, with straight handle springing from the rim, at the extremity of which is a circular opening. The bottom, which has a diameter of $4\frac{1}{2}$ inches externally, shows three concentric rings round a central hollowed bottom. The vessel has been tinned inside. (*Catalogue of Dr Grierson's Museum, Thornhill, 1894, p. 80, No. 16.*)

32. *Erickstanebrae, Moffat*.—In the *Gentleman's Magazine* of 12th May 1787 there appears the announcement of the discovery while digging peats at "Errock-stane-brae in the vicinity of Moffat near the Roman causeway of half of a gorget or breast plate of a commander of the Roman army." It is said to be "above an ounce in weight and appears to be one half of a ring about three-quarters of an inch broad and three inches wide, with a thin border on both sides about an inch in breadth and meeting outwards in the border are seen the following letters, the interstices being cut out, viz.: IOVI AVG on one side and VOT XX on the other" (fig. 54). The metal is not mentioned.

In the account of the parish of Kirkpatrick-Juxta contributed by the Rev. Gabriel Scott in 1792 to the old *Statistical Account of Scotland* the writer describes the Roman road from Carlisle running northward by Burnswark, crossing the parish and passing a place called Tatiusholm, where there are some remains of a square encampment of small extent. He notes that "near the Roman road where it enters the parish of Moffat, there was found in a moss about three years ago a piece of gold of semicircular form," and gives the inscription already quoted. The Rev. Gabriel Scott was no doubt anxious to claim such an interesting discovery for his parish, but Erickstanebrae lies quite five miles north of Kirkpatrick-Juxta, and was doubtless outside the parish; nor could he refrain from turning the familiar Tassiesholm—known to us through Roy—into the more Latin-sounding Tatiusholm.

Hübner (*Corpus Inscr. Lat.*, vol. vii, p. 1283), compiling his notice of the discovery from the earlier accounts, places the find near to Kirkpatrick, close to the Roman road where it enters the parish of Moffat not far from Tatinsholm, near Lockerbie, Annandale. Evidently through a printer's error the Rev. Mr Scott's Tatiusholm had become Tatinsholm, and the real place of find, Erickstanebrae, had dropped out of sight. The discovery thus became connected with Kirkpatrick, whereas it was really made not far from Moffat.

In 1893 Professor Haverfield published in the *Archaeological Journal* (vol. 1, p. 305) a note on the find, of which a photograph had been sent to him. He describes it as a gold fibula with a semicircular bow. The

bow is in section a hollow triangle, of which the sides are cut into patterns, and bear in pierced work the letters **IOVI AVG** and **VOT XX** respectively, which he expands **IOVI AUG(usto) VOT(is)XX**. The third side, the under side, is plain, and has scratched on it **PORTO**. He notes that "the *Vicennalia* are mentioned on several coins of Diocletian, whose title *Jovius* is well known. Similar *vota* are mentioned on fourth-century

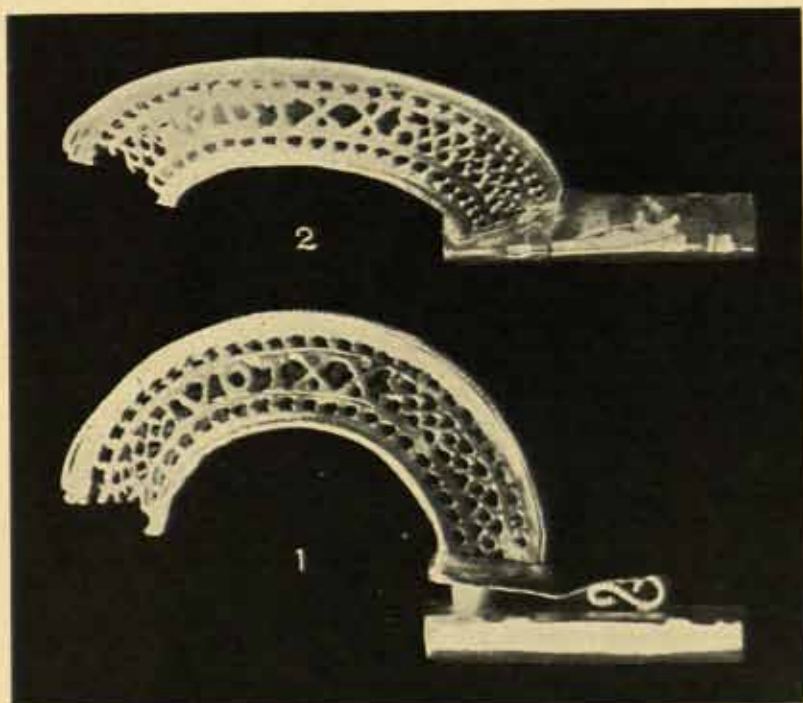


Fig. 54. Gold Brooch, Erickstanebræ, Dumfriesshire.

inscriptions." Sir Arthur Evans, who has seen the brooch, describes it as a magnificent piece of goldsmith's work. He agrees with Professor Haverfield that the inscription refers to the *Vicennalia* of Diocletian celebrated on 20th November A.D. 303, and makes the suggestion that it may have formed part of the insignia sent to Constantius Chlorus in Gaul, and that its loss may have been connected with his Caledonian expedition in A.D. 306. The brooch is now in the possession of Mrs Rannie, West Hayes, Winchester, to whom I am indebted for photographs.¹

¹ I have to thank Miss M. V. Taylor for the earlier references to this find.

33. *Friars' Carse*.—In 1790, in making the road from Dumfries to Sanquhar, two pateræ were found, one within the other. On the handle of the larger of the pair are said to have been engraved or stamped the letters **ANSIEPHARR** (L Ansius Epahroditus). The pateræ are now lost. A crannog was discovered at Friars' Carse in more recent years in close proximity to the above road. There is little doubt that the vessels came from it. (*Archæologia*, vol. xi. p. 105.)



Fig. 55. Bronze Cooking-pot, Barean Loch, Kirkcudbright.

Stewartry of Kirkcudbright.

34. *Barean Loch—Crannog*.—In 1865, the level of the loch having been lowered owing to drainage, an artificial island was exposed in it, surrounded by a circle of oak piles enclosing a wooden flooring. Two metal pots were found here. One of these, which is of bronze, was presented to the Museum (fig. 55). It stands 5 inches in height, and is somewhat globular in shape. The rim is bent outwards so as to give a grip to the handle, which was probably of iron. The diameter at the mouth is $4\frac{1}{4}$ inches, at bottom $3\frac{3}{4}$ inches. There are scratches on the bottom, probably marks of possession. It forms a parallel to the soldiers' cooking-pots found at Newstead. (Munro, *Ancient Scottish Lake-Dwellings*, p. 37.)

35. *Borness Cave*.—This cave is situated on the seacoast about $2\frac{1}{2}$ miles west of the river Dee. In the excavations which took place in

1873-4 and 1877 a large collection of relics, in which implements of bone very largely predominated, was obtained. These include pins, needles, weaving-combs, bone spoons, objects of unknown use, possibly cheek-pieces for bridles; a circular bronze brooch which was probably decorated with enamel; also a fragment of a small dragonesque fibula (fig. 56), a harness-mounting, pieces of glass armlets; one Sigillata fragment, the side of a cup, D. 27; also implements of stone and of deer-horn. (*Proc.*, vol. x. p. 476; vol. xi. 305; vol. xii. 669.)



Fig. 56. Terminal Head of a Dragonesque Brooch, Borness Cave, Kirkcudbright.

36. *Cairnholly*.—Bronze handle of a ewer (fig. 8). The lower portion of the handle takes the form of a Medusa head. The face has been plated with silver, which is still to be seen on the eyes and nose. The stem is divided into two compartments. On the lower appears a tripod with a serpent twining round it. Above the tripod, on one side are an unstrung bow and a quiver of arrows; on the other a cithera. The higher compartment shows a stag browsing, with trees behind it. (*Proc.*, vol. xxxix. p. 230.)

37. *Carlingwark Loch, Castle Douglas—Crannog*.—One of the natural islands near the south end of the loch was surrounded by a rampart of stones, and was connected with the shore by a causeway formed of oak piles. Not far from this island there was dredged up about 1866 a large bronze cauldron (fig. 18). It stands 18 inches high, and 25½ inches in diameter at the mouth. The lower part is spherical, hammered out of a single piece of thin bronze, but showing many patches. The upper part of the vessel is formed by an upright collar of bronze, 8½ inches in height, which is riveted to the lower portion. At two points on this collar exactly opposite one another, patches of metal, 8 inches by 8½ inches, have been riveted on, doubtless to give a more secure foundation for the handles. All traces of these, as well as of the rim of the vessel, have disappeared. The cauldron contained, in addition to many pieces of scrap-iron (fig. 23), eight sword-points, varying in length from 2½ inches to 6½ inches, and in width from 1½ inch to 1¾ inch. Some of them show signs that they have been snapped off by being bent over at right angles. There are also four hammers, three axe-heads, an adze, a small sickle, a chisel, two files, a punch, two small anvils, cold chisels, a fragment of a scythe, two portions of saws, one with its wooden handle still attached, ring-staples, hooks, holdfasts, two looped handles for a bucket, a snaffle bridle-bit, an iron tripod or ring with three legs (fig. 20) for supporting a cauldron or pot, a grid-iron (fig. 19), incomplete, but having seven bars; portion of a bronze vessel, an ornamented tankard handle (fig. 26) with zoomorphic terminals, and a number of pieces of thin bronze used for patching vessels (fig. 24), and pieces of chain mail (fig. 25). The original

account mentions portions of green-coloured glass which is no longer with the find. On one piece, 3 inches long by 2 inches in breadth, the letters A and I, which might be a portion of M or some other letter, were in relief. (*Proc.*, vol. vii. p. 7.)

38. *Mote of Mark, Rockcliffe, Dalbeattie—Vitrified Fort.*—The fort stands on a small rocky eminence overlooking the estuary of the Urr. The ground rises to about 100 feet above the shore. The bulk of the relics discovered during the excavations, which took place in 1913, date approximately to the ninth or tenth century, but a small fragment of Samian ware and a piece of a mortarium were found, giving evidence of an earlier occupation of the site. (*Proc.*, vol. xlviii. p. 125.)

Wigtownshire.

38A. *Carleton, Glasserton*—About the year 1880 there was ploughed up here a mass of almost pure copper like a thick cake (fig. 37), irregularly circular, 9 inches in diameter, 3 inches thick, weighing about 36 lb. It appears to have been cast in a rude open mould or pan with edges expanding slightly outwards and upwards. An analysis by Mr W. Ivison Macadam, F.C.S., preserved in the Library of the Society of Antiquaries, gave the following results:—

Copper	96.764
Zinc	1.914
Insoluble siliceous matter	1.322
	<hr/> 100.000 (<i>Proc.</i> , vol. xiv. p. 176.)

39. *Dowalton Loch—Crannogs.*—This site lies on a peninsula bounded on the west by the Bay of Luce and on the east by the Bay of Wigtown. The crannogs were discovered through drainage operations on the loch in 1863. The relics found include a large bronze patera (fig. 10) in a remarkable state of preservation. The patera stands $5\frac{1}{2}$ inches in height, and 8 inches in diameter across the mouth. The handle, 7 inches in length, is stamped CIPIPOLIBI. The vessel is ornamented outside opposite the handle by a human face in relief, surrounded by a movable ring (fig. 11); this may be a later addition. An interesting feature in this dish is the series of six parallel lines which run round the interior, carefully graduating the vessel for measurement of the contents, like the pegs of a modern tankard. Mr Edwards, Assistant Keeper of the National Museum, has carefully measured the capacity of the patera and has furnished the accompanying diagram. The figures between the lines represent the actual amount of liquid in cubic centimetres contained in each space.

 523 c.e.

 523 c.e.

 723 c.e.

 623 c.e.

 620 c.e.

 365 c.e.

 315 c.e.

The patera is of Campanian origin and of the first century.

In addition to this vessel there are three bronze basins. Two of these, 12 inches in diameter and 3 inches deep, are hammered out of a single piece of metal. A third, 10 inches in diameter and 4 inches deep, is of sheet-metal, fastened by rivets, with portions of an iron handle; it shows several patches. There is also a heavy bronze ring attached to a portion of the rim of a large bronze vessel, a penannular brooch, two axe-heads of iron and one hammer, portions of glass armlets, a melon-shaped bead, a piece of a decorated Sigillata bowl, Type D. 37 (fig. 1, no. 1), showing part of the rim and ovolo border, the form indicating that it belongs to the first century, a portion of a leather shoe, a small crucible, and iron slag. In 1880 a circular bronze mounting with La Tène III. ornamentation was found in the loch. (*Proc.*, vol. vi. p. 114; Munro, *op. cit.*, p. 38.)

40. *Sandhead, Glenluce—Burial.*—A large number of rough, undressed boulders which were foreign to the district were noted near the seashore. They had evidently been dislodged from what had been their original position through the burrowing of rabbits and the drifting of sand. The boulders were found to cover a cremated burial. White calcined human bones, with quantities of wood charcoal and small burned stones, were noted. The site had evidently been used for a funeral pyre. Together with the calcined bones was found a small broken ring of bronze, with a large number of much-oxidised iron objects, such as sharp-pointed nails and pieces of iron plating. There were also fragments of two spear-heads of iron, which appeared to have been bent before they were placed

in the deposit, and a portion of an iron sword-blade. Fragments of two vessels of *Sigillata* were found. One showed the rim with part of the ovolo border of a bowl, Type D. 37. The other, of which there were seven small pieces, was of globular form, Type D. 72, the surface decorated with diamond-shaped incisions. This type of *Sigillata* has been noted at Balmuirdy and at Castlecary, but examples are rare in Scotland. An iron finger-ring was also found, set with pale green chalcedony, engraved with a robed female figure, bearing in her left outstretched hand what appears to be a palm branch. The find probably belongs to the later

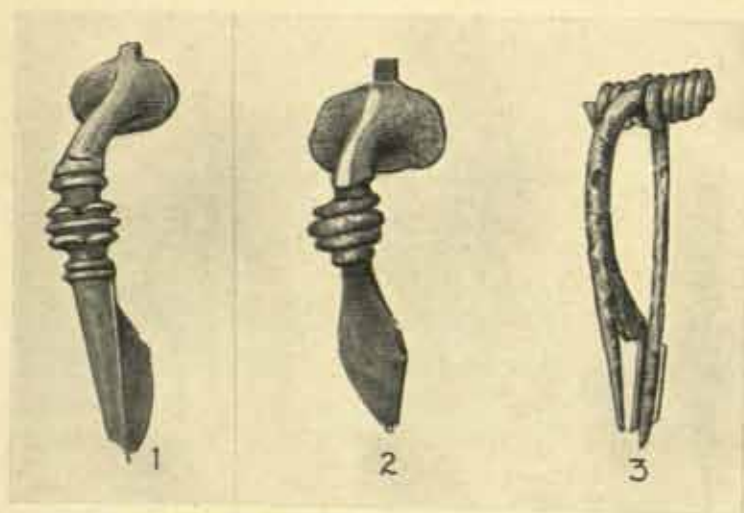


Fig. 57. Brooches found on Glenluce Sands, Wigtownshire. (1.)

part of the second century. The relics are the property of Mr Ludovic M'L. Mann, to whom I am indebted for the above information. They are deposited with his collection in the Glasgow Corporation Galleries.

The sands at Glenluce have blown over ancient settlements of many different periods. The National Museum contains a large number of small objects found there. Among these are a few brooches, all of them of provincial Roman types. Two of these are of the simple safety-pin class (fig. 57, no. 3); two belong to the trumpet shape (nos. 1 and 2). In neither of the latter has the floriated ornament on the bow fully developed, in neither is there any trace of enamel decoration. The angular expansion of the stem in no. 2 is an unusual feature.

41. *Stelloch*.—In 1889 Sir Herbert Maxwell, Bart., presented to the National Museum a bronze statuette of Mercury (fig. 58), 5 inches in height, found in 1871 while ploughing on the farm of Stelloch, near Monreith. The

nude figure of the god stands upright. On his head he wears his winged cap; in the right hand he clasps a purse; over his left side hangs a cloak, clasped above the shoulder with a brooch. The feet are wanting. The place of find was given in 1889 as Blairbuy, which is an adjoining farm. (*Proc.*, vol. xi. p. 123.)

Ayrshire.

42. *Aitnock, Dalry—Fortified Site.*—This native fort is situated on the summit of a cliff which rises about 60 feet perpendicularly from the waters of the Rye stream at the south-west angle of Hindog Glen, near Dalry. The fort was defended by a deep ditch and a stone wall. A considerable number of stone objects—hammer-stones, discs, whetstones, etc.—were found. The relics included one fragment of a shallow Sigillata bowl, much decayed, possibly D. 18-31, and another piece of coarse, reddish Romano-British ware. Coins of Vespasian, Hadrian, and Antoninus Pius were also found. (*Proc.*, vol. liii. p. 123.)

43. *Ayrshire.*—There is in the National Museum a good example of a bronze trumpet brooch found in this county. In the *Archaeological Collections of Ayrshire and Wigtownshire*, vol. vii., fig. 5, there is illustrated another example of a brooch of this type in silver (fig. 32). This brooch is remarkable for its preservation, and also for the ornamentation of the pin-holder with a series of incised triangles with inserted dots, a reminiscence of enamel decoration. The brooch is said to have been found in Ayrshire.

44. *Castlehill, Dalry—Fortified Site.*—This native fort is situated on the summit of an isolated rock, on the farm of South Howrat, 600 feet above sea-level. It appears to have been defended by a stone wall. The finds comprised a number of stone implements—hammer-stones, whetstones, polishers, discs, etc.—and numerous querns; a few bone objects; fragments of a platter of Sigillata, D. 18-31, and a fragment of the footstand of a second platter; part of the reeded handle of a large Roman glass jar, a fragment of a blue melon-shaped bead, and also several pieces of glass, which indicated a later occupation in the eighth or ninth century. The bronze objects included a very fine dragonesque



Fig. 58. Bronze Figure of Mercury, Stelloch, Wigtownshire.

fibula (fig. 59, no. 1) (not with the rest of the collection in the National Museum), a small penannular brooch, and a trilobed sword-guard (fig. 60). Among the iron objects were an axe, a small gouge, and several spear-heads. (*Proc.*, vol. liii. p. 123.)

45. *Lochlee, Tarbolton—Crannog*.—The site formed a small island on a lake, now drained. Excavation was undertaken in 1878, when the piles and other woodwork which formed the substructure of the dwellings were discovered. Stone implements, including an axe, and querns were found. Implements of bone and deer-horn were numerous; also

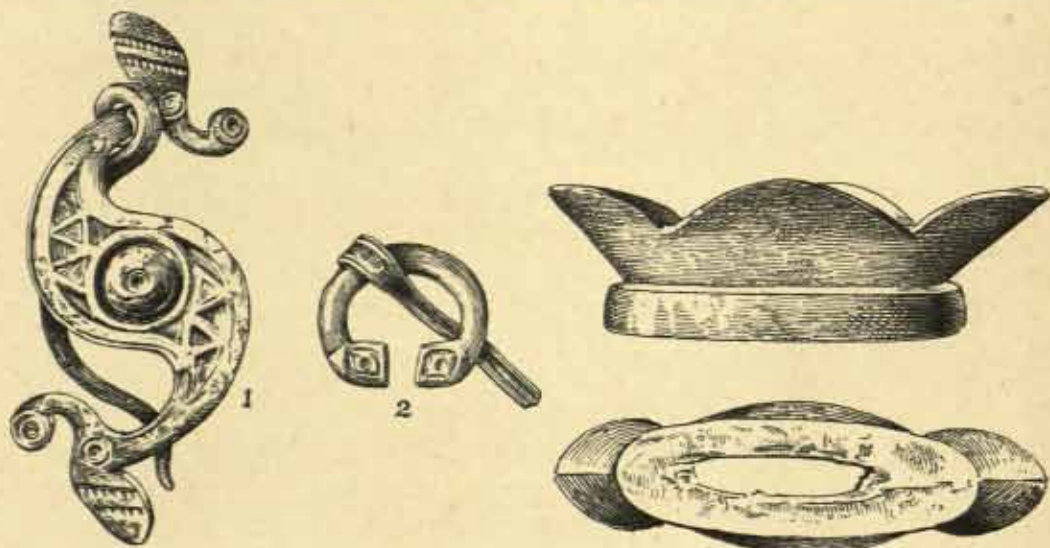


Fig. 59. Brooches from Castlehill, Ayrshire. (1.) Fig. 60. Sword Mounting, Castlehill, Ayrshire. (1.)

an interesting series of wooden objects, including dishes; an appliance, which appears to have been used in trapping deer or other wild animals; also a canoe and a paddle. Among the iron objects were a saw, a chisel, a gouge, an axe, and spears and daggers, together with a curious three-pronged instrument of unknown use. Three fibulae were recovered (fig. 61)—one of the trumpet shape, a second of the head-stud type with settings for enamel, and a third of unusual form, bow-shaped, with a broad expanded stem, as well as a dress-fastener and a bridle-bit, partly bronze, partly iron. Glass was represented by melon-shaped beads, and pottery by the bottom of a vessel of *Sigillata*, D. 37, and the side of a shallow bowl, D. 18-31, both of the second century, and five fragments of a dish of whitish unglazed ware. The objects are deposited in the Public Library and Museum, Kilmarnock. (*Proc.*, vol. xiii. p. 175.)

46. *Lochspouts, Maybole—Crannog*.—Reduction of the water-level of a

small lake brought to light a mound which was excavated in 1880. A crannog was traced, built on wooden foundations, with a gangway to the shore. Stone pounders, discs, whetstones, and querns were found, with objects of bone and deer-horn. There were few traces of iron,

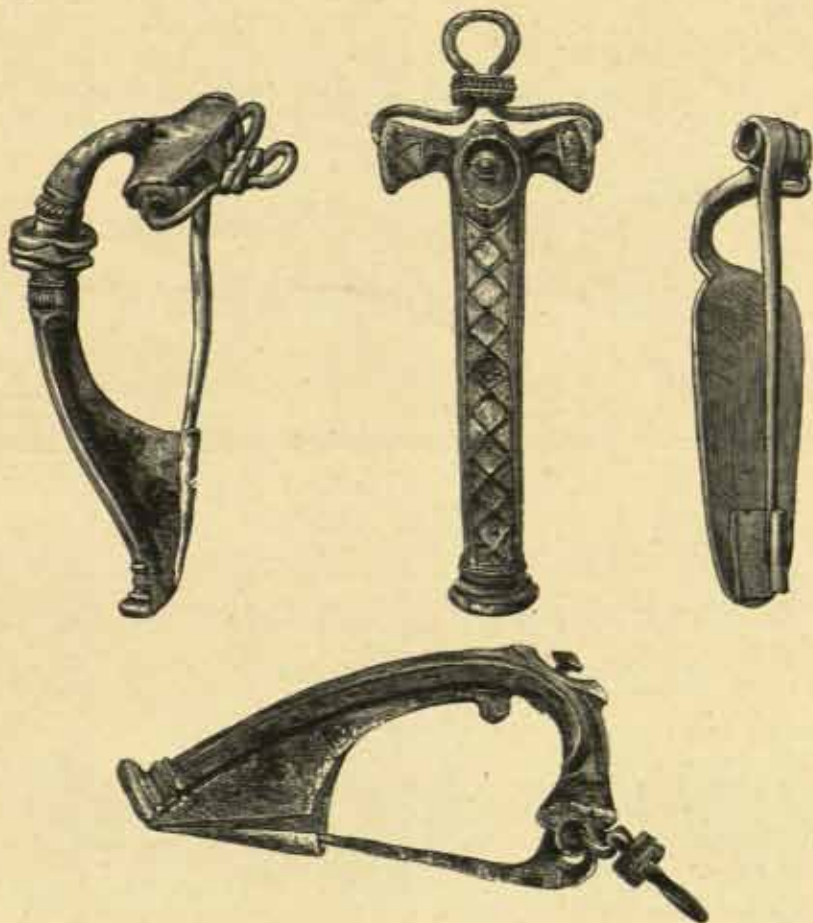


Fig. 61. Brooches, Lochlee Crannog, Ayrshire. (f.)

with the exception of a small dagger. The bronze finds consisted of a dress-fastener, with Late Celtic ornament, and a small key. There were greenish-blue melon-shaped beads, and a portion of a rather coarse, decorated Sigillata bowl, D. 37, showing the ovolo border and a design of second-century type (fig. 1, no. 10). There were also some fragments of mediæval pottery. (Munro, *Ancient Scottish Lake-Dwellings*, p. 158.)

47. *Mid-Buston, Kilmaurs—Crannog.*—Excavations in 1880 revealed

the structure of a crannog in a meadow which at one time formed the bed of Loch Buston. Objects of bone were found, including combs and implements of deer-horn. The iron tools included an axe, a gouge, a punch, an awl, and several knives (fig. 62). The weapons consisted of a spear-head and several arrow-points. There were several objects of iron

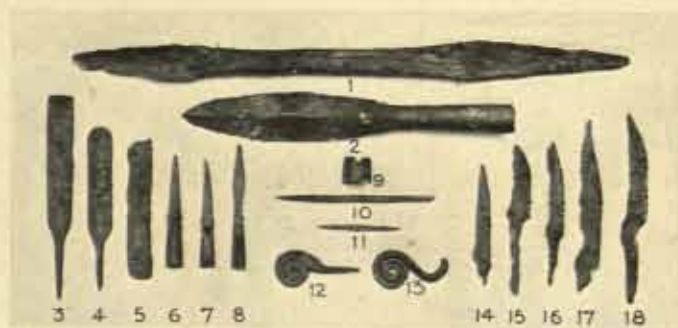


Fig. 62. Some Iron Objects from Mid-Buston Crannog, Ayrshire. (½.)

of unknown use, and a portion of a large padlock, bronze pins, two finger-rings of gold, fragments of glass and pottery, which included a small fragment of Sigillata ware, part of an undecorated vessel, and some clay crucibles. A small debased coin found is assigned to the sixth or seventh century, so the life of the crannog may have been a long one. (Munro, *op. cit.*, p. 190.)

Lanarkshire.



Fig. 63. Bronze Bull, Bank Farm, Dolphinton, Lanarkshire. (½.)

48. *Bank Farm, Dolphinton.*—There is in the Museum a small bronze figure of a bull (fig. 63) about $1\frac{1}{2}$ inch high and 2 inches in length. It was found with a bronze fibula, now amissing. The fibula is illustrated in the *Archaeological Association Journal*, vol. x., pl. iii., figs. 17 and 18. It appears to be of the trumpet shape.

48A. *Gallowflat, Rutherglen, Glasgow.*—In 1773 two brass or copper vessels were dug up in a mound at Gallowflat, about a mile east of Rutherglen. Each held "about a chopin." They had broad handles about 9 inches in length, having cut upon them the name **CONGALLVS** or **CONVALLVS**. Both are now lost. (Ure, *History of Rutherglen, Glasgow*, 1793, p. 124.)

49. *Fleshers Haugh, Glasgow Green, Glasgow.*—In 1876, in the course

of excavation at this spot, which lies about 200 yards from the Clyde, a Sigillata bowl, 9 inches diameter, $4\frac{1}{2}$ inches deep, Type D. 37, was discovered. The decoration in large medallions and panels is typical of the Lezoux potters of the Antonine period. The bowl is complete. Glasgow Corporation Galleries. (*Proc.*, vol. xxii. p. 352, fig. 12.)

50. *Yorkhill, Glasgow*.—In 1867 Roman pottery was found on the lands of Yorkhill, near the confluence of the Kelvin with the Clyde, including "fragments of several jars of the ware called Samian," portions of an ornamented vase of white glass, and coins, including a first brass of Trajan. The Glasgow Corporation Galleries contain some coarse pottery from the site, but there does not appear to be any "Samian" among it. (*Proc.*, vol. xii. p. 257; vol. lii. p. 237.)

51. *Hyndford Crannog*.—At Hyndford, near Lanark, a low mound, some 70 or 80 feet in diameter, stood surrounded by the water of a more or less circular pond. In 1898 it was excavated. A circle of piles was uncovered, which appeared to have formed the surrounding walls of a timber house. The floor of the dwelling seemed to have been made of beds of faggots on which clay had been laid. Several hearths were noted on the clay floor. The relics included a stone axe, a finely polished circular stone disc, a stone mortar, a whetstone, whorls of shale, a portion of a steatite cup, and a fragment of a stone mould. The bronze objects included spiral and other finger-rings, a line of beads strung on an iron rod, which had formed part of a beaded torque or neck-ring. Among the glass were fragments of armlets, melon-shaped beads, and two pieces of a vessel of amber-coloured glass, one being part of a hollow rim. I have had an opportunity of examining the pottery, which consists of some forty fragments of Sigillata, most of them very small. Three fragments represent the rims of three carinated bowls, D. 29. One of these, which is rather larger than the others, shows part of the scroll which decorated the upper frieze. One piece comes from the side of a bowl, D. 37 (fig. 64, no. 3). The ovolo border is small, more resembling a wreath and tassel. The side of the bowl has been divided into panels. In the upper portion is a figure of Cupid facing left; on the right, a variant of the usual cruciform ornament. Both designs are used by the potter Mommo on bowls found at Pompeii. In the centre, a design of arrow-points in pyramidal form, beaded lines filling the angles; the beaded lines project into the panels above. The panels on either side appear to have held figures of running animals, of which the tails alone remain. The mould appears to have been poorly executed. Professor Atkinson (*J.R.S.*, vol. iv. p. 27, pl. ii., No. 3, fig. 8) notes that the bowls of Mommo found at Pompeii show much carelessness in technique. Another fragment of rim showing a

few lines of decoration appears to be of Type D. 37 (no. 1). It had no ovolo border. One piece came from the side of the cylindrical bowl, D. 30. There was also a piece of the rim of a globular narrow-necked vase of thin ware, recalling Déchelette 68. Another small fragment, belonging to this or to a similar vessel, shows remains of a band of decoration divided into panels (no. 2). The other fragments were from

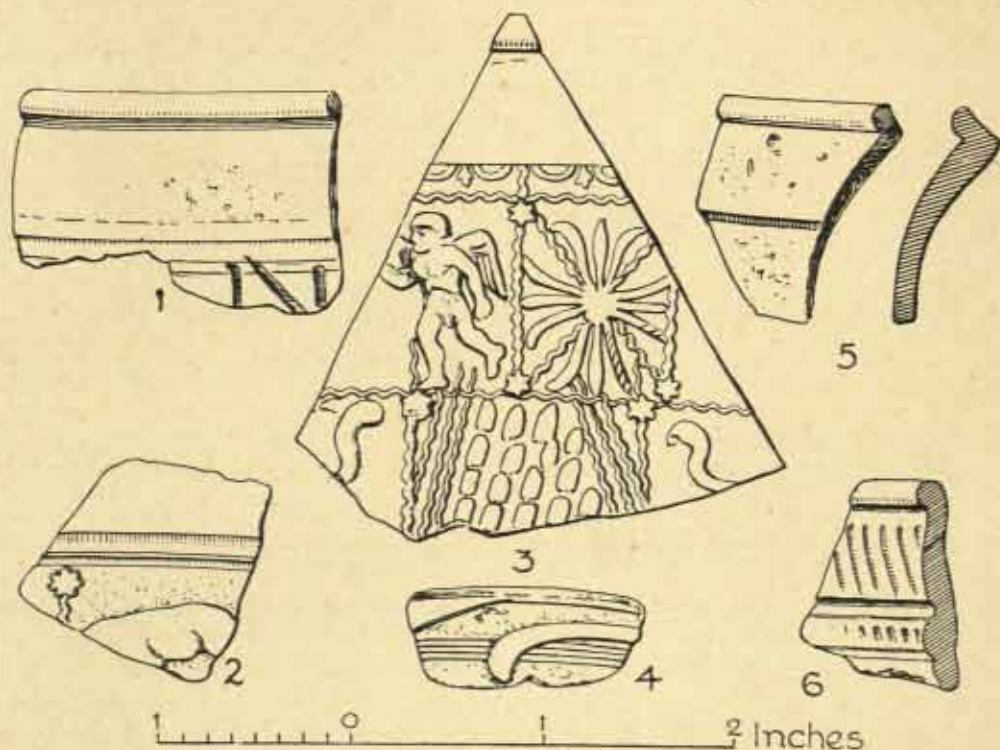


Fig. 64. Fragments of Pottery from Hyndford Crannog, Lanarkshire.

a cup, D. 27, a small bowl or cup, D. 35 (no. 4), possibly three platters, D. 18, and one of the slightly larger shape found at Newstead (pl. xxxix. fig. 6). With the exception of one fragment of the footstand of a large bowl, as to which there may be some uncertainty, all of the above belong to the period which began with the advance of Agricola.

The coarse ware includes the pieces of a small buff beaker (no. 5), with the rim small and well set back, probably also of the first century, and a piece of a lid of such a vessel. There is also one small piece of a hard reddish-brown material, with overhanging rim, which recalls the profile of a late mortarium, but yet does not seem to belong to that type of dish. The rest of the pottery is clearly mediæval.

The objects are deposited in the Lindsay Institute, Lanark. (*Proc.*, vol. xxxiii. p. 373.)

52. *Lanark*.—The National collection includes a Roman ladle and sieve found at Lanark. These are somewhat incomplete, as all that remains are the rims and handles. The vessels, which appear to be of second-century type, measure $11\frac{1}{8}$ inches in length; the bowls are about $4\frac{3}{4}$ inches in diameter.

53. *Sadlerhead, Lesmahagow*.—In 1807 a bronze jug was discovered at this farm (fig. 9). It was found embedded in clay at the bottom of a small stream. It is 12 inches in height. The body is plain; the bottom is marked by concentric circles. The handle is richly ornamented with embossed figures. The lowest part shows a female figure standing beside a pedestal or altar; a bird rests on her right hand; above her is a Corinthian helmet, and above this again another figure, apparently a winged genius. Beyond the helmet there is a small spear, with fillet incised. The whole is surmounted by a draped shield, with a gorgon's head in the centre. At the top the handle divides, clasping each side of the mouth with the bill of a long-beaked bird. The jug is preserved in the Hunterian Museum, The University, Glasgow. (James Macdonald, *Tituli Hunteriani*, pl. xvii. p. 95.)

Renfrewshire.

54. *Barochan, Paisley*.—In 1886 a bronze patera was found at Barochan, near Paisley. It measures 9 inches in diameter and 6 inches in depth. On the handle is the stamp [CIP]OLIBY. (*Archaeological Journal*, vol. xlix. pp. 200-28.)

COUNTIES NORTH OF THE ANTONINE VALLUM.

Fifeshire.

55. *Constantine's Cave*.—This cave lies on the coast a little to the north of Fife Ness. It was excavated in 1914. There were three distinct layers which produced relics. In the lowest of these, shells, bones, potsherds, and other refuse from human habitation were found along with part of the shoulder and ribbed end of the handle of a rounded glass bottle of Roman type, two small and one large fragment of fairly fine, red-surfaced Romano-British ware, and a great number of fragments of amphoræ. Two amphoræ were restored from the pieces, but it was estimated that the fragments indicated three more of these vessels. On the outside the amphoræ were covered with a creamy slip. On the handle of one was the stamp PMSA; another had the letters VD

incised on the surface near the bottom. Deer-horns and bones were found, showing traces of being cut, worked, and used as implements. In the inner portion of the cave fragments of iron-slag were very common, and a hearth for smelting ironstone was found *in situ*.

The relics were deposited in the Pettigrew Museum, St Andrews, but are not now on exhibition there, and I have not had an opportunity of seeing them. (*Proc.*, vol. xlix. p. 232.)

56. *Kinkell Cave*.—This cave lies on the cliffs about 2 miles south-east of St Andrews. In the excavations carried out in 1913 many bones of domestic and of wild animals were found, as also many shells, otherwise the finds were few. There were only three fragments of pottery. Two of these are described as of ordinary, rather thin Romano-British ware; the third was part of the centre of a Sigillata bowl. This was probably an undecorated dish, as it showed part of a potter's stamp with a minute portion of a letter, perhaps an M. There was also found the handle of a bronze jug and a quantity of iron nails. Incised crosses on a sandstone slab in the cave point to a later occupation in the Early Christian period. Deposited in the Pettigrew Museum, St Andrews. See No. 55. (*Proc.*, vol. xlix. p. 232.)

57. *Largo Bay—Kitchen-midden*.—Two small fragments of pottery were picked up on the site of a kitchen-midden at St Ford Links, Largo. They appear to be of red Romano-British ware, showing some remains of glaze. They belong to a coarse late platter, some 8 inches in diameter and less than 1 inch in depth. (*Proc.*, vol. xxxv. p. 281.)

58. *Norrie's Law, Largo—Tumulus*.—Norrie's Law is a tumulus about 53 feet in diameter, surrounded by a ditch and a wall on the outside of the ditch. The site lies about 3 miles from the coast on the north shore of the Firth of Forth, not far from the town of Largo. About 1817 or 1819 a remarkable silver treasure was unearthed here. It has been estimated that it weighed 400 ounces of bullion. Most of it was sold by the finders and melted down. The few pieces that escaped are now in the National Museum. They consist of two penannular brooches; two leaf-shaped plates engraved with the spectacle ornament and zigzag rod with floriated ends—a symbol which occurs on the walls of caves in Fifeshire and on the sculptured monuments of Scotland; three silver pins, in one of which the floriated rod reappears; a band of silver, slightly convex in outline, ornamented with incised lines forming triangles and lines of dots; a spiral finger-ring; a portion of plate bearing divergent spirals and trumpet scrolls in repoussé work; and a considerable number of fragments of thin plate. Oblong bosses appear on a good many marginal portions of these. With the silver there came to the Museum a barbarous imitation of a second brass coin of Antonia

Augusta struck by Claudius, said to have been found on the site with a Byzantine coin attributed to the seventh century. Two coins—of Valens and Constantius II.—are also said to have been found. Sir George Macdonald ("Roman Coins," *Proc.*, vol. lii. p. 238) expresses doubt whether the coins have any connection with the treasure. While most of the objects preserved are undoubtedly of native manufacture, it seems possible that the strips of silver with their border of raised bosses formed part of a Late Roman dish. (*Proc.*, vol. vi. p. 7; vol. xviii. p. 233.)

Stirlingshire.

59. *Newpark, Polmaise, Stirling.*—A very fine brass fibula, $3\frac{3}{4}$ inches long, was found on this farm in 1850 (fig. 36, nos. 2 and 3). It approximates to Mr Collingwood's E Type. The catch-plate is pierced with trumpet-shaped and crescentic openings. The brooch is preserved at Polmaise, Stirling. (*Proc.*, vol. lii. p. 26.)

60. *Throsk, St Ninians.*—In 1885 a statuette of Mercury in bronze (fig. 65) was presented to the National Museum. It was found in ploughing on the farm of Throsk. The figure, which is a good deal worn, is $4\frac{1}{2}$ inches high. The god is nude but for a cloak which is fastened by a band round the neck, and is draped over the left shoulder and arm. He wears the winged sandals and cap. The right hand, which probably bore a purse, is gone.¹ (*Proc.*, vol. xix. p. 51.)



Fig. 65. Figure of Mercury in bronze, Throsk, Stirlingshire.

Argyllshire.

61. *Ardifuar, Pottalloch Estate—Fortified Site.*—This site lies in close proximity to the coast on the north side of Crinan Loch. It was excavated in 1904. It is surrounded by an almost circular wall, 10 feet thick at the base, with a single entrance. The interior averages 65 feet in diameter. The finds included a polished stone axe, four whetstones, a stone mould, fragment of a crucible, a small ring of bronze, some fragments of coarse native pottery, a small fragment of a decorated Sigillata bowl, D. 37 (fig. 1, no. 11), showing part of the ovolo border and of a demi-medallion probably dating from the second century, and a portion of the lip of a Roman dish, of a greyish-white paste, probably a shallow pan. (*Proc.*, vol. xxxix. p. 259.)

¹ For a closely analogous figure found at Marköbel, see Kutsch, *Kataloge West und Süd-deutscher Altertumssammlungen*, Hanau, Beilage 15 (2).

62. *Dunadd, Poltalloch Estate—Fortified Site.*—Dunadd lies about two miles from the sea, but the river Add, which passes near it, would, at least at high tide, permit of boats coming up to it from the Crinan Loch. Dunadd is an isolated rocky eminence, rising 160 feet above the flat moorland plain on which it stands, and 176 feet above the sea. It is reputed to have been the capital of Dalriada. The summit of the hill has been strongly fortified, stone walling being employed to reinforce the natural hollows. Nearly on the summit a figure of a boar has been incised on the rock. In the excavations undertaken in 1904 a large number of querns were found, as also a stone disc inscribed I[N] NOMINE; a carved ball of stone with six projecting discs, moulds, crucibles, beads, objects of bone, among them a comb, combs of iron, spear-heads and knife-blades, together with fragments of coarse native pottery. In further excavations, which took place in 1929, four small pieces of Sigillata were found. (*Proc.*, vol. xxxix. p. 292; vol. lxiv. p. 124.)

63. *Gallanach, Oban—Fortified Site.*—A very large refuse-heap accumulated at the base of an isolated stack of rock, known as Dun Fheurain, was excavated in 1894. The site lies close to the sea some 60 yards south of Kerrera Sound. The summit of the rock above appears to have been fortified. There were found the quernstones and whetstones, usual on such sites, a number of objects of bone, including pins, needles of various types, a bone cylinder cut at one end into a stamp in the form of a cross, with a pellet in each of the four quarters, ring-headed pins of bronze and iron, a portion of a sword-blade, coarse pottery, and one small triangular fragment, 2 inches by 1 inch, of the upper part of a bowl-shaped vessel of Sigillata showing lip with "a peculiarly arranged pattern of fine linear ornamentation." This fragment is not among the relics preserved in the National Museum. (*Proc.*, vol. xxix. p. 278.)

Perthshire.

64. *Glenshee.*—In 1887, Mr C. T. Guthrie presented to the National Museum "a pair of bronze pateræ" found in Glenshee (fig. 16). It would perhaps be more correct to describe these as a ladle and a strainer, the one fitting into the other. The internal diameter of the strainer, which alone is complete, is $4\frac{1}{2}$ inches, and its depth $2\frac{1}{2}$ inches. The handles are $7\frac{1}{2}$ inches long, and show the usual expansion to allow them to rest on pegs projecting from a wall. They probably belong to the second century. (*Proc.*, vol. xxi. p. 263.)

Angus.

65. *Airlie—Burial.*—In 1885, near the school buildings at Airlie, a cist was discovered formed of slabs of thin sandstone. It had neither

cover nor bottom. In it were found a small piece of bone and a glass cup (fig. 3), circular in shape, 3 inches in diameter, $2\frac{1}{2}$ inches in depth, with a rounded rim. It probably belongs to the end of the third or fourth century. (*Proc.*, vol. xx. p. 136.)

66. *Fithie, Farnell—Earth-house.*—In 1868, in the Quarry Park field on the farm of Fithie, an earth-house was discovered, about 12 feet in length, $3\frac{1}{2}$ feet wide at the entrance and 6 feet at the farther end. The height was from 4 feet to 6 feet. Bones of animals were scattered on the floor, and pieces of a Sigillata bowl, D. 37, blackened by fire. The bowl had been decorated with large medallions and panels in the style of Cinnamus. It belongs to the second century. (*Proc.*, vol. viii. p. 473.)

67. *Kingoldrum, near Airlie—Burial.*—Dr Anderson notes the find on this site about 1843 of a small glass vessel in a cist with an unburnt interment. It contained a bronze vessel, a small chain of bronze, and a small cruciform mounting of the same metal showing traces of enamel. The objects have apparently been lost. (*Proc.*, vol. xx. p. 139.)

68. *Pitcur, Coupar-Angus—Earth-house.*—This earth-house, which is situated on the farm of Pitcur, $2\frac{1}{2}$ miles from Coupar-Angus, was discovered in 1878. It was of large size, the main gallery measuring 190 feet. The most of the relics found, which included a Roman coin, have disappeared, but some pieces of Roman pottery from among the finds were preserved by Mr Graham Menzies, the owner of the site, and were exhibited to the Society of Antiquaries of Scotland at the time of the discovery. These belonged to the side of a Sigillata bowl, D. 37 (fig. 66). The decoration was in panels. Under an ovolo border, left to right:—small medallion with a bird facing right, beneath it a hare facing left above two rings; a figure of Apollo bearing a palm, beneath it a dog running to left; the subject of the first panel repeated, but the bird facing left; demi-medallion with lion bounding to right and beneath it five rings, and lower still a smaller lion moving to right; first panel repeated; panel imperfect, with figure of a naked man. The bowl appears to have been Lezoux ware of the second century. Fragments of at least two other bowls, and a portion of the lip of a vessel of ordinary coarse native pottery were found. (*Proc.*, vol. xxxiv. p. 202.)

69. *Pitcur—Earth-house.*—Another earth-house was discovered on this farm in 1863. A few relics from it were deposited in the National Museum, including two fragments of Sigillata. One of these belongs to a bowl, D. 37 (fig. 1, no. 7). Beneath an ovolo border, in the centre is a flute of Pan; on the right, part of a small medallion; on the left, part of a floral scroll. The other fragment belonged to a comparatively small, thin

globular vessel (fig. 1, no. 8). It has been decorated in barbotine with scrolls. A somewhat similar design is to be found on a vase at Oehringen.¹ It is probably from Rheinzabern. (*Proc.*, vol. v. p. 82.)

70. *Tealing, Dundee—Earth-house.*—This earth-house was discovered in 1871 near the house of Tealing, not far from Dundee. The earth-house was of considerable size, being 80 feet in length. The finds recorded

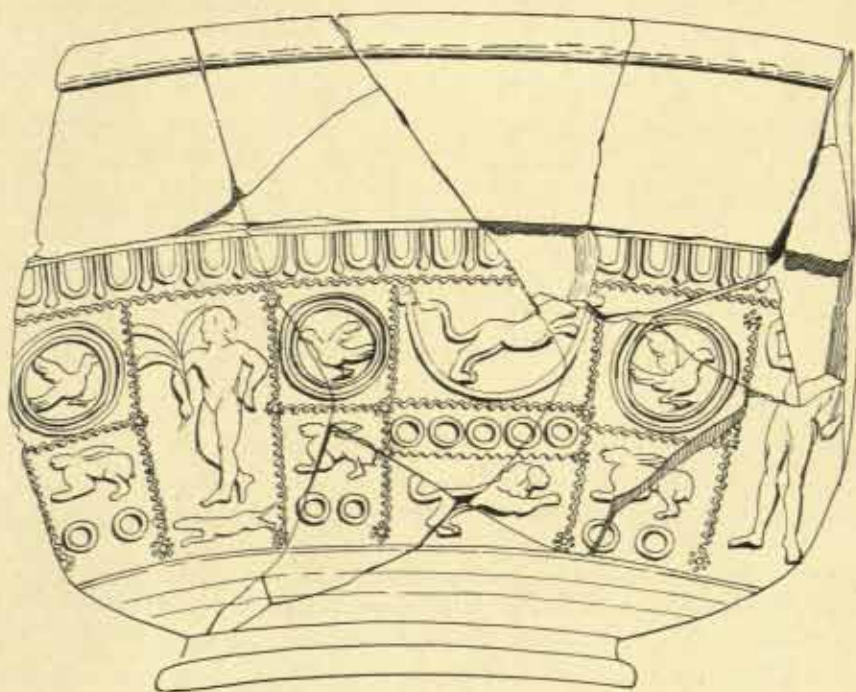


Fig. 66. Part of Sigillata Bowl, Piteur, Angus.

include animal bones, ten querns, and "a piece of Samian ware." It is not known where these finds are now. (*Proc.*, vol. x. p. 287.)

71. *West Grange of Conan—Earth-house.*—The site of this construction lies about 5 miles north-west of Arbroath. It stands about 400 to 500 feet above sea-level, and lies at no great distance from the coast. It consisted of a curved underground passage, 46 feet in length, from which a passage, 20 feet long, gives access to a circular beehive chamber 10 feet in diameter. The finds included animal bones, a stone vessel, part of a quern, a bronze needle, and three pieces of a Roman amphora—bottom, side, and handle. (*Proc.*, vol. iv. p. 492.)

¹ *O.R.L.*, Oehringen, Taf. IV. fig. c. 15.

Aberdeenshire.

72. *Brackenbraes, Turriff.*—In the course of constructing the railway-line from Banff to Turriff, between 1855 and 1857, in cutting through a sandy hillock a Roman glass bottle (fig. 67) was found. After passing through various hands, it came into the possession of Mrs Duff Dunbar



Fig. 67. Glass Bottle, Brackenbraes, Turriff, Aberdeenshire.

F.S.A.Scot., who exhibited it to the Society of Antiquaries of Scotland in 1930. The bottle is of greenish glass, and measures 9 inches in height. It is shaped like a mason's mallet, with a single handle. (*Proc.*, vol. lxiv. p. 147.)

73. *Cairnhill, Monquhitter—Burial.*—In 1894, in trenching the site of a cairn on the farm of Cairnhill, there was found within the circular ring of stones which had formed the basal boundary of the cairn an approximately circular chamber. To the east of it lay two stone-lined cists; an oblong pit or grave was also discovered. On removing the end-stone of

one of the cists the workmen discovered a number of objects. A further search on the site the following day brought to light more relics. Many of them were natural objects, pebbles of different material; but with them were two flint implements, a ring of jet, and the following, illustrated in fig. 7, viz., two small balls of green glass ornamented with white spirals, a portion of an armlet of vitreous paste, a large head of vitreous paste, nearly three-quarters of a flattened sphere, $2\frac{3}{8}$ inches in its longer and $1\frac{1}{8}$ inch in its shorter diameter. The colour is reddish brown, variegated with whitish streaks imitating agate, the core a dark blue, almost black, as shown in section. A medallion of glass paste, oval in form, $1\frac{1}{2}$ inch by $1\frac{1}{4}$ inch, of three layers, white between an upper and an under layer of black. The edges are bevelled, and the upper side and edges are polished. Lastly, a paste intaglio with



Fig. 63. Playing men and silver penannular Brooch, Waulkmill, Aberdeenshire. (1.)

a figure of a faun. The intaglio is also an oval, measuring $1\frac{1}{4}$ inch by $1\frac{1}{8}$ inch. The under layer is of a brownish hue; the upper layer, left only as a moulding round the field, is a pale blue. The figure is that of a youthful faun, in an erect attitude poised on the left foot. Over the right arm hangs a panther's skin; the left hand holds a thyrsus. (*Proc.*, vol. xxxvi. p. 675.)

74. *Waulkmill, Tarland—Sepulchral Deposit.*—In 1898, in digging in a sandbank, various objects were found under circumstances which suggest that they were associated with one or more interments. Among the objects were part of a set of playing-men. Of these, the National Museum possesses six of reddish brown and light brown quartzite, two complete pieces of dark blue translucent glass, and portions of two others, and two of vitreous paste. Three colours moulded together are employed in these—greenish blue, yellow, and brown. With them was a small penannular brooch of silver (fig. 68). There was also found a very unusual bronze cup (now in the collection of Dr J. Graham Callander), with a long, straight everted rim springing from a globular body, decorated with studs having sharp conical heads. The cup shows a

striking resemblance to some of the large globular cauldrons preserved in the National Collection. (*Proc.*, vol. xxxix. p. 213; vol. xlix. p. 203.)

Moray.

75. *Covesea—Cave.*—This site, known as the Sculptor's Cave, lies 6 miles north of Elgin, on the south shore of the Moray Firth. The relics found during the excavation of the cave in 1930 indicate an occupation which must have commenced in the Bronze Age and continued down to the latter half of the fourth century. They include many bones, both of animals and of human beings, bronze pins, penannular brooches, toilet instruments, beads of glass, amber, and jet. Two hundred and twenty

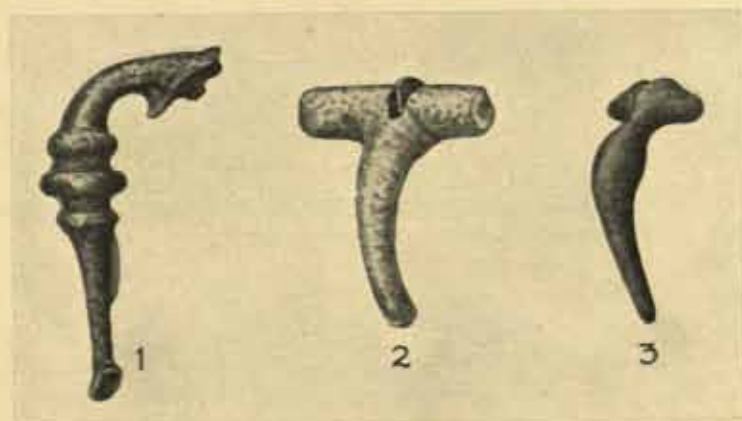


Fig. 69. Brooches found on the Culbin Sands, Moray. (1.)

coins were found, for the most part barbarous imitations of Late Roman types. Ten genuine coins are dated nearly to the middle of the fourth century. Their limits are—A.D. 337 to 354. Roman pottery was present. Five pieces belonged to Sigillata vessels—four from decorated bowls, D. 37, and one a fragment of the rim of a cup, D. 33; all of these probably date from the Antonine period. There was the rim of a polished wheel-made cooking-pot, likewise of second-century type; some fragments of black soft ware, and of ware of a yellowish colour. (*Proc.*, vol. lxxv. p. 177.)

76. *Culbin Sands.*—From this site a few fragmentary relics have been picked up, which may be classified as Roman. One small fragment of the rim and side of a bowl or cup of light-coloured glass, 5 inches to 6 inches in diameter, ornamented with two bands of vitreous paste laid over the outer surface; fragment of the hollow rim of a vessel of amber glass similar to those found at Newstead; fragments of light-coloured glass, with three thread-like ribs of blue glass on the outer surface. There are also a few brooches. One is of the trumpet shape (fig. 69,

no. 1). It has a disc-like ornament on the bow, and is possibly early. A second brooch (no. 2) with a short stem and a comparatively long, hollow cross-piece, which contains the spring for the pin, is probably a second-century type. No. 3 and another closely resembling it appears to be imitated from provincial Roman brooches, but it is not easy to assign them to any definite period. In addition to the above there is a small bronze collar such as is often employed at the base of the loop on the head of a brooch. (*Proc.*, vol. xxv. p. 484.)



Fig. 70. Enamelled bronze Brooch, Lochside, Spynie, Moray. (†.)

77. *Lochside, Spynie*.—The National Museum has a trumpet-shaped brooch from this site. It is ornamented with enamel; on either side of the head the decoration takes the form of a *triskele* in blue with red spots (fig. 70).

77A. *Shores of the Moray Firth*.—In 1851, Mr Patrick Chalmers exhibited to the Society of Antiquaries a very fine crossbow brooch of gilded bronze 3 inches in length found on the shores of the Moray Firth, probably dating from the fourth century (fig. 36, no. 4). A replica is preserved in the National Museum.

Sutherland.

78. *Carn-liath, Dunrobin—Broch*.—This broch is situated about $1\frac{1}{4}$ mile east of Dunrobin Castle. The finds included mortars and querns, discs of sandstone and shale, steatite cups, a long-handled comb, a whalebone club, two plates of bronze, marked in lines with the pane end of a hammer on both sides; a much-rusted iron blade, fragments of coarse native pottery. Outside the broch was found a silver brooch (fig. 36, nos. 5 and 6) 3 inches long. In shape it is cruciform, the arms short, the bow unusually heavy and deep. The stem is decorated with spirals and serrated projections, evidently derived from the cusped ornament of a fourth-century brooch. (*Arch. Scot.*, vol. v. p. 102.)

79. *Helmsdale*.—A remarkable hoard of seven bronze vessels (fig. 17) came to light here in 1868 during the progress of railway works. Five of the dishes were round and somewhat shallow bowls, and two were colanders. They lay at the back of a large earth-fast boulder, about a foot below the surface. The smaller of the two colanders seems to be of the ordinary hemispherical shape, but it has lost its handle. It is described as having been riveted to a handle of iron or wood, and four rivets for its attachment remain; this may indicate the repair of a broken handle. The bowl has a diameter of $4\frac{1}{4}$ inches, and is $1\frac{1}{8}$ inch deep. The other colander is a remarkable dish. It has over all a

diameter of about $9\frac{1}{4}$ inches, and it is $2\frac{1}{2}$ inches deep. The vessel has a rim $3\frac{1}{4}$ inches in breadth, which is decorated with a double chevron pattern punched from above. In the bottom of the dish the perforations take the form of a six-pointed star enclosed in a circle, while beyond it and reaching to the inner rim are two zones of scroll work. It was doubtless intended to be used with one of the shallower bowls which were found with it. These were of varying sizes. The smallest measures $6\frac{1}{2}$ inches to $6\frac{5}{8}$ inches diameter, and is about $2\frac{1}{8}$ inches deep. The next in size is $7\frac{3}{8}$ inches diameter by $2\frac{1}{4}$ inches deep. The third is about $8\frac{3}{8}$ inches diameter and $2\frac{3}{8}$ inches deep. The fourth, somewhat irregular in form, is from $9\frac{1}{4}$ inches to $10\frac{3}{8}$ inches diameter, and $3\frac{1}{8}$ inches to $3\frac{3}{8}$ inches deep. The above measurements were taken when the vessels were shown at the Glasgow Exhibition in 1911. But there remains one of the same shallow type, but slightly larger, which was in too fragile a condition to allow of its being sent with the rest of the hoard. It is described as thin all over, and having had a rim, probably of iron, $\frac{1}{16}$ inch thick, of which the rivets remain. It is about 10 inches in diameter and 3 inches in depth. The find is preserved in the Museum at Dunrobin, Golspie. (*Proc.*, vol. xx. p. 214, pl. xvi.)

Caithness.

80. *Everley Broch, Canisby*.—This broch, with the three others which follow, is situated on a strip of the eastern coast-line of Caithness, on which nine of these structures were excavated by the late Sir Francis Tress Barry, Bart. The relics consisted of pins and needles of bone, stone vessels, pounders, polishers and whetstones, whorls and discs, all of stone; also six fragments of pottery. Two of these pieces are of Sigillata, both from decorated bowls, one of which formed part of a carinated bowl, D. 29 (fig. 1, no. 2). It shows the moulding dividing the upper from the lower zone of decoration. Above it are remains of a tendril enclosing a figure of an animal running to right; below it is a line of S-shaped ornament. The second fragment is also possibly early, but it is too much rubbed to be certain. There is also a small piece of the hollow rim of an amber-coloured glass vessel. (*Proc.*, vol. xxxv. p. 142; vol. xliii. p. 15.)

81. *Keiss Broch, Keiss*.—The finds include weaving-combs of deer-horn, pointed implements, spoon-shaped implements, a hammer-head, borers, and other objects of bone showing signs of use, a jet ring, a portion of a glass armlet, and three fragments of Sigillata. All the three last have come from decorated bowls. The largest from a bowl, D. 37, shows panel decoration (fig. 1, no. 3). The central panel has a leaf in a circle; below it is a navette-shaped ornament; on the right, a figure of Venus.

The panels on the left are imperfect. A second fragment is from another hemispherical bowl; little of the decoration remains, but it has probably had wreath decorations (no. 5). Both pieces appear to date from the second century. The third fragment is much worn. There were also found two fragments of a vase of thin white ware, with a black, rather metallic surface, with white slip decoration (no. 6). This appears to be Rhenish ware. The stone objects included whorls, polishers, a cup, and three lamps, and also a series of pebbles, with spots and lines painted on their surfaces. One portion of an iron implement was found. (*Proc.*, vol. xxxv. p. 122; vol. xliii. p. 11.)

82. *Nybster Broch, Wick.*—The finds included a long-handled bone comb, portions of quernstones, saddle querns, with one small piece of the side of decorated Sigillata, Bowl 37 (fig. 1, no. 4), showing part of a circle and an ornament resembling a double acanthus leaf. (*Proc.*, vol. xxxv. p. 139.)

83. *Road Broch, Keiss.*—In character the finds resembled those from the two preceding sites, and included a small fragment of a decorated Sigillata bowl, showing only the foot of a figure, and two pieces of brownish pottery, a sandstone disc with markings on both sides, suggesting an inscription, rubbing stones, querns, and stone vessels. (*Proc.*, vol. xxxv. p. 131.)

Orkney.

84. *Burray, Island of—East Broch.*—There were found several stone vessels, including one apparently a lamp, a bone scoop, and a cup made of a vertebra of a whale, long-handled and double-edged combs, bone pins, a bronze pin, and "a small fragment of Samian ware." (*Arch. Scot.*, vol. v. p. 86.)

85. *Kirkwall, Bishop's Castle.*—In 1872, Mr A. G. Geoghan exhibited at a meeting of the Royal British Archaeological Institute a Roman fibula found at "Bishop's Castle, Orkney." This may refer to Kirkwall or possibly to Birsay. It is described as resembling in a general fashion a harp-shaped enamelled fibula found at Risingham, Northumberland, figured by Dr Bruce in his *Roman Wall*, 3rd ed., p. 431. This is a trumpet brooch. There is no further information as to this find. (*Journ. Arch. Inst.*, vol. xxix. p. 274.)

86. *Mid-Howe, Westness, Island of Rousay—Broch.*—In the course of recent excavations on this broch, Mr Walter G. Grant discovered four pieces of reddish-brown pottery belonging to a jar of wheel-made pottery, and a portion of the remains of a bronze ladle. The pottery very closely resembles that found at the Broch of Okstrow. The objects are in the possession of Mr Grant.

87. *Okstrow, Birsay—Broch.*—In 1875, Mr Henry Leask presented to the

National Museum of Antiquities a collection of objects from the Broch of Okstrow (Haugster How), comprising hammer-stones, a stone cup or vessel, lamps of stone, long-handled combs of bone, a bone playing-man, a pin, whorls both of bone and sandstone, a pin and a penannular brooch, both of bronze, also a bronze handle probably for a wooden tankard, and fragments of a somewhat coarse Sigillata bowl, D. 45, which show holes drilled for the insertion of lead clamps. The bowl probably dates from the late second or third century. There is also a small portion of the bottom of another vessel of the same ware, and two fragments belonging to a Roman beaker or jar of reddish-brown ware. (*Proc.*, vols. vii. p. 64 and xi. p. 81.)

88. *Westray, Island of—Burial.*—In 1827 the bottom and a few fragments of the lip of a glass vessel, now in the National Museum, were presented by the Rev. Dr Brunton. They formed part of a cup found in a cist in the Island of Westray. The cup is said to have been quite entire when found, but was broken after it had been brought to Edinburgh. The glass is very thin and light. The bottom has been flat, with a low circular footstand like a saucer, and having also a smaller concentric ring within the exterior ring which surrounds the base. It belongs to the same class as the cup from Airlie. Probably third or fourth century. See Angus, No. 65. (*Proc.*, vol. xx. p. 138, fig. 2.)

Ross and Cromarty.

89. *Berie, Loch Roag—Island of Lewis.*—Picked up by Dr J. Graham Callander from a kitchen-midden a small fragment of the rim of decorated Sigillata bowl, D. 37. Remains of earth-houses had been noted in the vicinity. (*Proc.*, vol. xlix. p. 11.)

Inverness-shire.

90. *Dores.*—In the National Collection is a hinged brooch 3 inches in length (fig. 36, no. 1), the bow formed by a flat piece of bronze with a knob at the foot, which was found at Dores in this county. It has a well-defined catch-plate. This belongs to the class of the Aucissa brooches and is typologically one of the earliest of the fibulae found in Scotland.

91. *North Uist, Island of, Bac-Mhic-Connain, Vallay—Earth-house.*—A piece of Sigillata was found here in an earth-house. The house contained a furnace, six small clay crucibles, clay moulds, some slag, and a very few metal objects, the tools and implements being predominantly of bone. (*Proc.*, vol. lvi. p. 12.)

92. *Skye, Island of, Dun-an-Iardhard—Broch.*—This broch was excavated in 1914. It stands on a peninsula, practically an island, 2 miles north-west of Dunvegan Castle. Native pottery was plentiful, and there

were also whetstones, rubbing stones, a quern stone, iron refuse, a necklace of fifty-nine amber beads, and several beads of glass and vitreous paste, including a yellow bead of a type which has been found at Traprain; there was also a portion of an armlet of steatite. At the lowest excavation level, almost on the rock, an object in terra-cotta was discovered, 2 inches long, $1\frac{1}{2}$ inch broad, $1\frac{1}{4}$ inch high (fig. 1)—apparently intended to represent a bale or package of skins or some such merchandise, bound longitudinally, and again transversely with a strong cord. The object is hollow. (*Proc.*, vol. xlix. p. 57.)

ADDENDA.

Three finds of importance which have been brought to my notice too late for insertion in their proper place in this Inventory may be added here:—

Midlothian.

Castle Law—Earth-house.—In 1932 Professor V. Gordon Childe excavated an Earth-house in Castle Law fort on the Pentland Hills (Inventory of Monuments in Midlothian, No. 102). The Castle Law fort stands at an elevation of about 1000 feet above sea-level. It is defended by a double



Fig. 71. Iron Brooch
from Moredun,
Midlothian. (f.)

line of earthen ramparts and rock-cut ditches, to which a third line is added on the north and south-western sides. The earth-house was built in a section of the inner ditch near the north-eastern entrance; it was thus probably a secondary construction. In it Professor Childe found two pieces of Sigillata, fragments of blue glass, a bronze Late Celtic mounting, and a brooch with black and red enamel decoration.

Moredun, near Gilmerton—Burial.—In 1903 a cist composed of sandstone slabs was uncovered in a field called the Leat Hill. It was found to contain the remains of two skeletons, a bow-shaped brooch (fig. 71), a ring brooch or buckle, and the head of a pin with open circular head, all of iron. A portion of cloth was found adhering to the first of these brooches, indicating that the bodies had been buried in some kind of clothing or wrapping. The type of pin has been discovered at Gallanach, Argyll [No. 63], in association with Sigillata. The same type of pin is present in the find from Norrie's Law, Fifeshire. The burial is assigned to the second century. (*Proc.*, vol. xxxviii. p. 432.)

Midlothian.—There is in the National Museum a stylus of bronze with its metal case (fig. 72). The case is 10 inches in length. It was formerly in the collection of Baron Clark of Penicuik. It is described and illustrated by Gordon, who states that it was found "within an

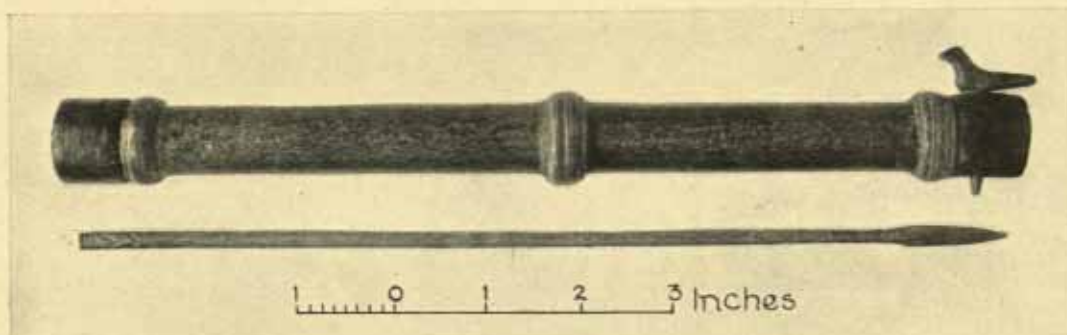


Fig. 72. Stylus of bronze with its metal case, Midlothian.

old Roman sepulture, or cairn, in the County of Edinburgh." (A. Gordon, *Itinerarium Septentrionale*, p. 117, pl. L, figs. 14 and 15.)

In conclusion I have to express my grateful thanks to many friends and correspondents to whom I am indebted for assistance in the preparation of this paper. To Mr J. Graham Callander, LL.D., Director, and Mr Arthur J. H. Edwards, Assistant Keeper, of the National Museum of Antiquities, Edinburgh, both of whom have taken infinite pains in helping my examination of the collections under their charge and in the preparation of illustrations. To Mr John Mathieson, late of the Ordnance Survey department, for laying down on the map the sites detailed in the Inventory. To Sir George Macdonald, K.C.B., for reading the proofs and for much helpful criticism. To my brother Mr A. O. Curle, C.V.O., Mr R. C. Bosanquet, Mr Eric Birley, Miss M. V. Taylor, Mr Ian A. Richmond, Dr Cyril Fox, and Professor James Ritchie, all of whom have placed their expert knowledge at my disposal. To Professor Emil Krüger of Trier for information as to the Filsen find. To Monsieur Raymond Lantier of Saint-Germain-en-Laye for communicating the results of his study of the marble head found at Hawkshaw. Lastly, to Mr Donald E. Horne, Curator of the Duke of Sutherland's Museum, Dunrobin, the Trustees of the Lindsay Institute, Lanark, and of the Dick Institute, Kilmarnock, all of whom have facilitated my task.

MONDAY, 11th April 1932.

THE RIGHT HON. SIR HERBERT E. MAXWELL, BART.,
D.C.L., LL.D., F.R.S., F.S.A.Scot., in the Chair.

A Ballot having been taken, the following were elected Fellows:—

RICHARD AINSWORTH, Author and Lecturer, Longmead, 54 Lauderdale Avenue, Cleveleys, near Blackpool.

Colonel P. J. BLAIR, 9 Magdala Crescent, Edinburgh.

WILLIAM CONNELL, 336 Main Street, Rutherglen.

E. E. CROOKS, F.C.I.I., Dundurn, Whitecraigs, Renfrewshire.

Rev. J. PRINGLE CROSGROVE, M.A., Minister of St Colmac's and St Ninian's, The Manse, Marine Place, Rothesay, Bute.

Rev. EWEN FRASER, Urray East Manse, Muir of Ord, Ross-shire.

Miss MARY PEOCK, M.A., Meikleriggs, Mossley Hill Road, South, Garston, Liverpool.

Connecillor WILLIAM REID, M.B.E., D.L., J.P., 8 Douglas Terrace, West Ferry, Angus.

PATRICK WYNDHAM MURRAY THRIEPLAND, Dryburgh Abbey, St Boswells.

Rev. Canon JOHN WILKINSON, The Parsonage, Ballater.

The following objects were exhibited:—



A dragonesque Fibula of Bronze (fig. 1) measuring $1\frac{1}{2}$ inch in length. On the body are two large three-sided cloisons filled with blue enamel, and in the head, and opposite end, are two small circular inlays of similar enamel, one near the centre and the other near the point of the snout. Found in the Roman fort at Newstead, Roxburghshire. Since being exhibited this brooch has been acquired by the National Museum.

Photograph of a flat Bronze Axe measuring $4\frac{1}{2}$ inches in length and $2\frac{1}{8}$ inches in breadth (fig. 2). Found at Glenbaltichal, near Comrie, Perthshire.

Fig. 1. Dragonesque Fibula of Bronze from Newstead, Roxburghshire. (1.)

The following Donations to the Museum were announced and thanks voted to the Donors:—

(1) By the EAST LOTHIAN COUNTY COUNCIL.

Fragments of a Sculptured Rock from the Quarry on Traprain Law, East Lothian.

(2) By H.M. OFFICE OF WORKS.

Casts of the Sculptured Rock at Traprain Quarry.

(3) By JOHN A. FAIRLEY, Lauriston Castle.

Inverness Special Constable's Baton of Wood, with a brass capsule at each end. It measures $3\frac{5}{8}$ inches in length. On one end is engraved INV*, and on the other CONSTABLE.

Sand Dredger of Ivory, measuring $2\frac{9}{16}$ inches in height and $1\frac{1}{2}$ inches in greatest diameter.

(4) By The Right Hon. VISCOUNT TRAPRAIN.

Bead of black Glass, with blotches of red, white, yellow, and green inlaid on the surface, measuring $\frac{5}{8}$ inch in diameter and $\frac{3}{8}$ inch in thickness.

Flat Ring of Shale or Jet, measuring $1\frac{7}{8}$ inch in diameter, slightly imperfect.

Two Bronze Rings, measuring $\frac{1}{4}$ inch and $\frac{3}{4}$ inch in diameter.

Ball of Coprolite. All found near the Quarry on Traprain Law, East Lothian.

The following Donations to the Library were intimated and thanks voted to the Donors:—

(1) By A. GRAHAME BUCHANAN,
M.B., Ch.B., F.S.A.Scot.

Rhymes With and Without Reason: being a Snappy Synopsis of Scottish History. Paisley, n.d.

(2) By RICHARD QUICK, F.S.A.Scot.

Bulletin of the Russell-Cotes Art Gallery and Museum, Bournemouth.
Vol. xi., No. 1.



Fig. 2. Flat Bronze Axe found at Glenbottichal, Perthshire. (f.)

(3) By Professor Dr ERNST FABRICIUS, Hon. F.S.A.Scot., the Author.
Obergerm.—Raet. Limes des Roemerreiches. Strecke 7-9—Der
Obergermanische Limes von Miltenberg am Main bis zum Haghof bei
Welzheim. Berlin und Leipzig, 1931.

(4) By THE SECRETARY, Manx Museum.
The Journal of the Manx Museum. Vol. ii., No. 30.

(5) By Professor V. GORDON CHILDE, B.Litt., F.S.A.Scot.
Hallstattzeit, and Kupfer und Frühbronzezeit. Stockholm, 1931 and
1932.

(6) By H.M. GOVERNMENT.
Acts of the Lords of Council in Public Affairs, 1501-1554. Edin-
burgh, 1932.

(7) By J. GRAHAM CALLANDER, LL.D., F.S.A.Scot.
Les Fraudes en Archéologie Préhistorique, by A. Vayson de Pra-
denne. Paris, 1932.

It was announced that the following Purchases had been made for
the Library:—

Extracts from the Records of the Burgh of Edinburgh, 1604 to 1626.
Edited by Marguerite Wood, Ph.D. Edinburgh, 1931.

Early English Ornament. By J. Brøndsted. London and Copen-
hagen, 1924.

Manuel d'Archéologie Préhistorique, Celtique et Gallo-Romaine—V.
Archéologie Gallo-Romaine. By Albert Grenier. Paris, 1931.

Reallexikon. Band XV.—Register. Berlin, 1932.

La Belgique Ancienne. Catalogue Descriptif et Raisonné. II.—Les
Ages du Métal. Brussels, 1931.

The following Communications were read:—

I.

UNRECORDED URNS FROM DIFFERENT PARTS OF SCOTLAND. BY
J. GRAHAM CALLANDER, LL.D., F.S.A.Scot., DIRECTOR OF THE
NATIONAL MUSEUM OF ANTIQUITIES.

CINERARY URN FROM TOXSIDE WOOD, MIDLOTHIAN.

On the 6th May last (1931) Mr John Smail noticed the side of an urn appearing just under the surface soil at the eastern face of Toxside



Fig. 1. Cinerary Urn found in Toxside Wood, Midlothian.

Quarry, in the wood of that name, near Gladhouse Reservoir, Midlothian. With the assistance of a fellow-workman, Mr James Bryden, he was able to extract the urn from the cavity in which it had been buried without further breakage. The urn was handed over to Mr James C. Kay, one of our Fellows, who informed me of the discovery and motored me to the site.

The urn (fig. 1) stood in an inverted position, 12 inches below the surface of the ground, and contained a considerable amount of calcined

human bones. There were about 3 inches of dark compacted soil in the mouth of the vessel. Formed of dirty brown clay, the urn is of the cinerary type, with a heavy overhanging rim. It is of unusual shape and quite unsymmetrical. Below the overhanging rim it widens to a pronounced shoulder and then contracts to a narrow base. It is unornamented, and a small part of the rim is wanting. The vessel measures $14\frac{1}{2}$ inches in height, $12\frac{1}{2}$ inches in diameter externally at the mouth, $13\frac{1}{4}$ inches at the lower part of the overhanging rim, $14\frac{1}{2}$ inches at the shoulder, and 5 inches across the base. The lip is almost flat and measures $\frac{1}{8}$ inch in breadth.

A small fragment of what seems to have been another cinerary urn of red clay, measuring only $1\frac{5}{16}$ inch by $\frac{7}{8}$ inch and $\frac{1}{8}$ inch in thickness, which showed two horizontal cord impressions on the outside, was found amongst the dark material removed from the cavity in which the first urn was buried, and two small fragments of a bronze awl, measuring $\frac{1}{16}$ inch and $\frac{5}{16}$ inch in length, amongst the calcined bones in the urn.

Professor Alex. Low, M.D., F.S.A.Scot., has examined the remains and has kindly supplied the following report:—

"The bones are from a burial by cremation and for the most part are in small pieces.

"All the larger pieces which can be recognised are human, and as there are no duplicate parts, are such as could belong to one person.

"There are some thirty-six pieces of the skull bones; the flat bones of the cranium being especially represented as well as pieces of the upper and lower jaws with tooth sockets. Quite a number of these pieces show open sutures and one piece shows the basilar suture of the skull, still unossified, indicating an individual under twenty-five years of age.

"Pieces of vertebræ can be identified and numerous pieces of the limb bones—upper and lower ends of both arm and forearm bones, the heads and pieces of lower ends of both thigh-bones, as also pieces of shafts of leg bones. The ends of these are all completely ossified, small and delicate, so that one might infer that we are dealing with the skeletal remains of a woman of from twenty to twenty-five years of age.

"The total weight of bony pieces is two pounds. It is of interest to note how thoroughly the bones have been calcined; chemical analysis shows only a trace of organic matter—about 0.2 per cent. instead of some 30 per cent. Organic matter is remarkably persistent in bones, in short-cist burials by inhumation the bones give some 25 per cent. of organic matter still present.

"Pieces of wood-charcoal, the larger up to half an inch in length, are found among the bones. Professor A. W. Borthwick of the Forestry Department, Aberdeen University, kindly examined the pieces of charcoal, and reports that the structure can still be made out without sectioning so that he can identify Birch and Elm."

FOOD-VESSEL FROM COCKENZIE, EAST LoTHIAN.

On the 8th June last the Rev. Thomas Osborne, F.S.A.Scot., brought into the Museum a food-vessel which had been found a few days before



Fig. 2. Food-vessel from Cockenzie, East Lothian.

at Winton Park, Cockenzie, East Lothian, where a number of houses had just been erected under a new housing scheme. The same afternoon I visited the site with Mr Osborne, and obtained the details of the discovery from Mr David H. Allan, who had rescued the vessel and suggested that it should be sent in to the Museum.

In digging a trench for a drain that runs parallel to and about 3 feet west of the gable of 20 Winton Park, about 6 feet from the north-west corner of the building, at a depth of 15 inches below the surface, the corner of a small cist, formed of brown sandstone slabs, was encountered. On displacing one of these stones, the interior of the cist was exposed, and the urn was found lying in the south corner. In

addition were a quantity of cremated human bones and some small pieces of charcoal. No other relics were found.

Of small dimensions, the cist was almost a cube, measuring 16 inches in length, 14 inches in breadth, and 16 inches in depth. The four slabs forming the sides measured from $1\frac{1}{2}$ inch to 2 inches in thickness, and the two slabs with which it was covered were rather thicker. The grave was not paved.

The urn (fig. 2), as already stated, is of the food-vessel type. It is in a good state of preservation, only a small piece of the rim being wanting. Formed of a reddish clay with a considerable admixture of rather large crushed stone, it measures $5\frac{3}{8}$ inches in height, $5\frac{1}{4}$ inches in diameter externally at the mouth, $6\frac{1}{16}$ inches at the shoulder, and $2\frac{3}{4}$ inches at the base. It has a vertical rim with a slight moulding at its junction with the tapering lower part. The top of the lip, which is $\frac{5}{8}$ inch thick, is sharply bevelled downwards towards the inside and is decorated with three concentric lines formed by the impressions of a twisted cord. On the outer edge of the rim are vertical indentations, and below this, but separated by three horizontal cord impressions, at the shoulder, are similar marks. The space between the lower two lines of impressions are filled with reversed hatched triangles. Just under the shoulder are four horizontal cord lines with large hanging hatched triangles below, and round the base are other four cord lines.

SHORT CIST AT ALTYRE, MORAYSHIRE.

In July last I received a telephone message from Sir Alister Gordon Cumming, Bart., of Altyre, saying that a stone-lined grave containing fragments of pottery and bones had been discovered on his estate, and that he was sending on the relics to the National Museum. As I expected to be in the North during the following week it was arranged that I should visit the site. Accordingly I went there on the 9th July and met Sir Alister, who took me to the place and furnished me with the details of the discovery as well as providing me with the photograph which is reproduced in fig. 3.

The burial was exposed through the removal of gravel from a sand-pit near the west side of the Loch of Blairs, some $2\frac{1}{2}$ miles, as the crow flies, south-south-west of Forres, on undulating ground at an elevation of about 150 feet above sea-level. The grave, which had been dug into coarse sandy gravel, was formed of four stone slabs set on edge, with a large stone cover, the sides and ends of which projected well beyond the chamber. The top of the cover-stone lay from 12 inches to 18 inches below the surface of the ground. With its main axis lying 72° east of north magnetic, approximately north-east by south and south-west by

north, the cist measured 2 feet 7 inches in length, 1 foot 8 inches in breadth, and 1 foot 9 inches in depth internally. The cover, which was oblong in shape, measured 4 feet 9 inches in length, 2 feet 7 inches in breadth, and 11 inches in thickness. As the grave had been examined by taking out the slab at the exposed southern end, and the cover had not been removed, the exact dimensions of the side and end slabs could not be ascertained, but so far as could be seen they measured about 4 inches in thickness. All the slabs consisted of a coarse grit. In covering in the grave a number of large water-worn pebbles had been placed on the cover-stone. The end slab, which was removed for the purpose of examining the grave, has been replaced, and it is Sir Alister's intention to leave the cist *in situ*, and fence it in.

When opened there were about 10 inches of gravel in the grave, and a small quantity of incinerated human bones, including a bit of the skull, were found in this deposit. In the most northerly corner were some fragments of a Bronze Age urn, while on the surface of the gravel, at the south-western end, were a number of pebbles, up to $1\frac{1}{2}$ inch in greatest diameter, partially covered with a white, limy deposit.

All that remains of the urn, which is a food-vessel, are a wall and rim fragment, $4\frac{1}{2}$ inches in length and $2\frac{3}{8}$ inches in height, and a few more negligible shards. It has a vertical rim measuring 2 inches in height, a tapering lower part, and a lip bevelled downwards towards the inside. It had measured $4\frac{3}{8}$ inches in diameter externally at the mouth, and the wall is $\frac{3}{8}$ inch thick.

Made of brown ware, the vessel is encircled by a raised moulding, $1\frac{1}{2}$ inch below the rim. It is ornamented by impressions of a thin blunt instrument pressed into the clay at a very acute angle. One row set radially appears on the top of the brim, and the whole of the wall seems to have been covered by horizontal rows not quite parallel, four being above the moulding; three rows are seen on a shard from the lower part of the vessel.



Fig. 3. Cist at Loch of Blairs, Morayshire, showing end slab slightly displaced.

FOOD-VESSEL AND CINERARY URN FROM KERRERA, ARGYLL.

A good many years ago Mr Dugald MacIsaac, Oban, excavated an artificial mound at Slaterach, Kerrera, Argyll. Two short cists, formed of slabs set on edge, were unearthed, one containing a food-vessel and the other a cinerary urn. The graves lay practically alongside each other, a few feet apart.

One grave, measuring 4 feet 5 inches in length, 1 foot 3 inches in



Fig. 4. Food-vessel from Kerrera, Argyll.

breadth, and 2 feet 2 inches in depth, contained a food-vessel (fig. 4) of brownish-yellow ware, measuring $4\frac{1}{2}$ inches in height, 6 inches in external diameter at the mouth, 6 inches at the shoulder, and about 3 inches across the base. The vessel is encircled by two mouldings, each of which is decorated by a single row of maggot impressions. A similar line of these markings appears under the rim. The rest of the wall is decorated by transverse rows of broad roulette impressions about $\frac{1}{4}$ inch apart. On the top of the lip, which is bevelled sharply on the inside, are maggot impressions set radially. More than three-quarters of the vessel survives. Seven water-rolled pebbles of cream-coloured quartzite were also found in the cist.

The other grave, which was also formed of slabs set on edge, measured 3 feet 3 inches in length, 2 feet in breadth, and 2 feet 2 inches in depth. It contained a cinerary urn (fig. 5) of brownish-yellow clay,

measuring $7\frac{1}{4}$ inches in height, $5\frac{3}{4}$ inches in external diameter at the mouth, $6\frac{1}{2}$ inches at the widest part, and $3\frac{1}{2}$ inches across the base. It is encircled slightly above the centre by a single cordon, the upper part being nearly vertical. The top of the rim, which is $\frac{5}{8}$ inch broad, is bevelled on the inside and decorated by impressions of a triangular pointed instrument, forming a zigzag line in false relief. On the



Fig. 5. Cinerary Urn from Kerrera, Argyll.

exterior of the wall are incised hatched lozenge patterns, a large lozenge in the centre, with the lower and upper halves of other two just under the rim and above the base. The vessel has been restored, and about three-quarters of it survive.

CINERARY URN FROM AULDYCH, ABERDEENSHIRE.

In our *Proceedings*, vol. ix. p. 157, there are recorded a number of circular foundations (hut-circles) and small cairns on the Gallow Hill, Auldyoch, Auchterless, Aberdeenshire. On the O.S. 6-inch map, Aberdeenshire, xxvii., N.E., within an area of less than a mile wide, round what is now the farm of Auldyoch, there are noted "Remains of Picts"

Houses" (hut-circles) in three places, and "Tumuli," where human remains have been found, in two places. Fragments of urns were found in several of the cairns, and "portions of three nearly complete, with a quantity of calcined bones and bone-earth," were preserved, and in 1871 were in Knockleith House; pieces of a fourth were sent to Hatton Castle, but the writer of the paper in our *Proceedings* apparently had not seen them. Two of those at Knockleith House were about 7 inches in greatest diameter, and the same in height. These proportions suggest that they were food-vessels, but as it is definitely stated that they were found with calcined human remains there is a shade of doubt whether they were so, even though we know that food-vessels occasionally are found with cremated interments.

As for the fragments which were preserved in Hatton Castle, it seems very probable that they consisted of the pieces from which Mr Edwards has built up the cinerary urn exhibited by Mrs L. Duff Dunbar of Ackergill, *née* Duff of Hatton, one of our Fellows.

The urn is of very plain form, being of flower-pot shape, with two raised cordons approximately $1\frac{3}{4}$ inch and $2\frac{1}{2}$ inches below the brim, without ornamentation. It measures from $10\frac{1}{4}$ inches to $10\frac{1}{2}$ inches in height, from 8 inches to $8\frac{3}{4}$ inches in diameter externally across the mouth, and 5 inches across the base. The rim is flat and measures $\frac{1}{2}$ inch in thickness. The ware is of brownish colour, tinged with red in places.



Fig. 6. Cinerary Urn from Auldych, Auchterless.

II.

CROSS-SLABS RECENTLY DISCOVERED AT FOWLIS WESTER
AND MILLPORT. BY J. JEFFREY WADDELL, I.A., F.S.A.Scot.

These stones (fig. 1) were discovered in the course of the work of



Fig. 1. Cross-slab and Fragments of other two at Fowlis Wester.

restoring the Church of Fowlis Wester, near Crieff, Perthshire, which
was undertaken by me at the request of Captain Drummond Moray

of Abercairnrie, the laird, and the Rev. T. C. Sherriff, M.A., minister of the parish. The church is a pre-Reformation one, and a sharp lookout was kept by all for any fragment of carved stone. The result was the finding first of all of the two fragments used as beam-filling at the wallhead of the church walls. They are very interesting fragments, each of a cross-slab with interlacing ornament, the larger fragment with single strand, the smaller with a double strand enriching the head of the cross. These are shown at the base of the cross-slab in fig. 1.

But the importance of these finds was overshadowed by the discovery of the larger slab illustrated herewith. When the old harling was stripped off the north wall of the church near its base, I noticed an abnormally long stone among the rubble, its long edge parallel with the surface of the wall. I managed to get my hand under it—it seemed to be just clay-built—so far as to feel what I suspected were carvings. We got the stone out without damaging it. It proved to be a very elaborately designed and finely cut stone—I know of no finer.¹ Design and execution are carried as far as is possible in this material—the local slightly pink freestone. All the carved work is on the one face; the lower portion, top, sides, and back are uncarved. The stone may never have been finished, but have been discarded.

It is 5 feet 2 inches long by 2 feet 8 inches, tapering to 1 foot 8 inches at the top, and is about 11 inches thick.

The carving is "on cant," and the stone has a tendency to flake or scale off. It will require to be watched carefully, and treated if necessary with stone preservative. (It has already been coated with "Cephasite" stone preservative.)

The design consists of a very finely enriched cross standing on an upright oblong base, in this respect resembling the standing cross out in the square at Fowlis Wester and that at Kirkecolm. It is decorated with spirals and key patterns. The cross has a square centre also enriched. The arms are enlarged at the ends, and the top or centre arm is longer than the side arms. They are bound together with a circle or aureole also covered with surface carving. The cross resembles those at Lothbeg, Farnell, Inchbrayock, Auldbar, Invergowrie, St Vigean, Meigle, and Largo.

The remainder of the field is sculptured in low relief. In the upper left-hand corner there is a figure of an animal with a large square-jawed head from which projects a semi-circular tusk or ring. The

¹ Mr J. S. Richardson, Inspector of Ancient Monuments for Scotland, was present when the larger of the three stones was discovered. He gave it as his opinion that some of the larger quoins at the S.W. angle of the church and others in the walling might also be carved stones of an earlier date than the present church; but these stones have not been moved.

body tapers to a tail, ending in a curl. There are no limbs. Beneath it is what seems to be a sword with a short parallel-sided blade, and a disk which may be meant to represent a circular shield or buckler. In the right-hand corner there is a similar creature, beautifully carved, with its jaws opened to their maximum, and with a human figure perfectly modelled with its head between the jaws of the animal.

On the field beneath the arm of the cross to the left there is a figure in profile seated upon a chair or throne, and dressed in a hooded embroidered robe. In front of the figure there is a rod with nine buds; behind and above it is a tree with leaves and fruit. Beneath this are two similar standing figures, smaller in scale, also in profile and facing the cross, and with hooded and embroidered robes. On the opposite side there is a somewhat similar seated figure, with a figure above and behind. Beneath this the field has flaked off before the carving was completed, for the carving seems to attempt to follow the irregularity of the surface and then stops.

The lower portion of the face is uncarved and rough for about 15 inches of its height.

The design of the cross resembles that of the larger standing cross in the square just outside the church, only the latter has no ring or aureole, and the ornament is different, not nearly so fine, and also much more weathered. At St Vigean's—on a cross-slab—there are two seated figures, but they are both on the same side of the cross; other four figures on the same stone have similar hoods and enriched garment hems.¹ On the stone near the old church of Eassie there is a representation of a tree with nine buds growing from a pot, but these buds grow four from each side and one from the top.² Seated figures are to be found at each side of the cross on a stone at Kirk Maughold,³ and on a stone from Papil are four upright figures, two at each side of the cross.⁴

At Dunfallandy there are two seated figures, one on each side of a much smaller cross.⁵ These figures have similar robes, but without enrichment and with the hoods drawn over their heads. The chairs are somewhat similar, but again not so fine as in this example. At Kingoldrum there is a fragment of a similar seated figure.⁶

CROSS-SLAB FROM MILLPORT.

In the monumental work of J. Romilly Allen on *The Early Christian Monuments of Scotland*, at page 413, there are described three fragments

¹ *Early Christian Monuments of Scotland*, p. 268, fig. 278.

² *Ibid.*, p. 218, fig. 231 B.

³ *Ibid.*, p. 10, fig. 5.

⁴ *Ibid.*, p. 11, fig. 6.

⁵ *Ibid.*, p. 288, fig. 305 A.

⁶ Stuart, *Sculptured Stones of Scotland*, vol. i. pl. xlix.

of carved stone which may be seen in the Cathedral Church of the Isles at Millport, on the Island of Cumbrae, Buteshire. They were placed there some years ago, having been removed, I understand, from the burial-ground adjoining the Parish Church Manse.¹

The stone which I wish to describe and illustrate herewith was also discovered adjoining the manse garden (fig. 2). Taken in conjunction with the stones at the Cathedral, this stone seems to prove that there was an early Celtic settlement on this site, although nothing definite of its history seems to be known. A further proof is that the manse



Fig. 2. Cross-slab from Millport.

garden-wall contains quite a number of fragments of broken stone with carved designs similar in style.

There is also a late Renaissance armorial panel built into the garden-wall.

The cross-slab is 3 feet 1 inch long by 14½ inches broad by about 6 inches in thickness. It is of freestone, and is carved on the face as shown and on one of the long sides only. The narrow end seems to be complete. The other end is broken, and one of the long sides is irregular. The ornament seems to follow this irregular shape. It is of the type known as Celtic and consists of interlacing strands forming a cross. Another portion of the ornament is enriched with studs. The whole design is formed by cutting out the background and leaving the ornament flush with the surface of the stone. The ornament on the side is very slight and consists of three parallel lines, broken at intervals.

¹ Eight of the Millport stones are illustrated in Stuart's *Sculptured Stones of Scotland*, vol. ii. pl. 74. There are six cross-heads, one cross-shaft, and one incised cross. Some seem very early in date, and none is like the one now described.

III.

THE OCHILTREE FLAG. BY THE REV. G. AIRD SIM, F.S.A. SCOT.

In 1930 an interesting addition to the seventeenth-century Scottish flags in the Museum of this Society was presented by the late Rev. John Warrick, Minister of the Crichton Memorial Church, Cumnock.

This is a flag bearing the name of the parish of Ochiltree, which adjoins Cumnock. It has also on it various inscriptions and designs, and the date 1689.

It appears to be made of good, well-woven linen, and measures 6 feet in breadth and 5 feet 4 inches in height. Considering its age and the vicissitudes through which it has passed, it is in a fair state of preservation.

On the dexter side, at the top corner, is the Scottish national ensign, a white St Andrew's cross on a blue field. To the right of this is depicted an open book with red sides. The book bears on its two open pages the inscription DEVS EST SEMPER IDEM, one-half of each word on the one page, and the second half of each word on the other page.

On the sinister side of the flag is painted the monogram W.R., with a crown between the first and second letter, and the national thistle-emblem below.

Immediately under the blue field of the St Andrew's cross in the upper left-hand corner is the word OVCHILTRIE.

The lower part of the flag bears the inscription in two lines:

FOR · GOD · THE · COVENANTED · PRESBYTERIAN ·
REFORMATION · CROVN · AND · COUNTRIE · 1689.

The provenance of this flag is interesting. The district of its origin is in that part of Scotland where those who adhered most earnestly to the National Covenant of 1638 were a strong element in the population. Various parishes in that area sent contingents of men to fight on the Covenanting side, and these appear to have had a local banner of their own. Some of the Covenanters' flags were captured, and burned by the common hangman at Edinburgh, after the Battle of Bothwell Brig. But some of their local flags are still in existence, such as those of the parishes of East Monkland, Fenwick, Avendale, and Cumnock. The name of the parish is on each of these flags. This is the case also with the Ochiltree flag. It is, however, not quite in the same category as these. It does not belong to the actual period of the Covenanting struggle, but to the time of the Revolution, as may be seen from the crown with the royal initials W.R., and the date 1689, on the flag.

Part of its inscription—"For . . . the Covenanted Presbyterian Reformation"—shows, however, that the men who were to march under it were Covenanters, and the story of this is connected with the Barony of Ochiltree in 1689. It is recorded by an affectionate chronicler of the parish of Ochiltree, the late Alexander Murdoch, B.A., F.E.I.S., a native of the place, in his book, *Ochiltree: Its History and Reminiscences* (Paisley, Alexander Gardner, 1918).

In 1667 the Barony of Ochiltree was held by Sir John Cochrane, a son of the Earl of Dundonald. Sir John was an anti-Royalist and took part in an attempt to put the Duke of Monmouth on the throne. On account of this he had to flee to Holland. There he remained till 1685 when he joined the Marquis of Argyll's ill-fated expedition into Scotland against James VII. He does not appear to have distinguished himself in that rebellion, and on its collapse he fled to his own county of Ayrshire. There he was arrested, tried at Edinburgh, and condemned to death. But, according to the romantic story, the warrant for his execution was intercepted by his brave young daughter, Grizel Cochrane, who, disguised as a man, "held up" the messenger, seized his bag, and carried off the warrant, thus gaining time for intercessions to be made to the King on her father's behalf. At any rate, Sir John Cochrane was not put to death, but only suffered the forfeiture of his estate of Ochiltree. This, however, was restored to his son, William Cochrane, in 1686, and it may be supposed that Sir John lived quietly there till the Revolution, unmolested by the ruling powers, perhaps because of his family connection with Graham of Claverhouse, who was the husband of Sir John's niece, Jean Cochrane.

But changes were in the air, and the old laird of Ochiltree, a fisher in troubled waters, was watching for events. They came. In November 1688 Prince William of Orange landed in England, was joined by his supporters there, and received the throne ignobly deserted by his uncle, James VII. In April of the following year William and Mary accepted the "Claim of Right," presented to them by a Convention of the Scottish Estates and including a Presbyterian settlement of the Church of Scotland.

It was in the name of the Estates of Scotland that a proclamation was issued on 30th March 1689, calling together "the Militia on this side Tay and the Fencible Men in some Shires." The sympathies of Ayrshire were well known, and among those who received the summons appears the name of William Cochrane of Ochiltree.

According to the local story, however, it was his father, Sir John, who took the lead, had a banner made for the men of Ochiltree, and gathered them under its significant devices in the name of God, the

Covenant, and King William. When the troubles were over, and the fencible men disbanded, the flag was brought back to Ochiltree House, where it remained until it was removed or stolen by a servant, who gave it to a friend in the village. On one occasion, says the tradition, it was rescued just as it was on the point of being used as a winding-sheet. It next passed into the hands of Patrick Simson, schoolmaster of Ochiltree, who in 1818 placed it in the care of the superior of the village, Alexander Boswell of Auchinleck. It was borrowed by some political enthusiasts for the purpose of being carried in a procession in honour of the passing of the Reform Bill in 1832. It was not returned to the Boswells, and was lost to public sight and knowledge for a hundred years. Probably someone came across it in a private house, rescued it from neglect and destruction, and finally gave, or bequeathed, it to Mr Warrick, believing that a minister, who was himself a well-known antiquarian and full of Covenanting lore, would be its best custodian.

In his old age Mr Warrick gave this interesting relic to be added to the collection of similar flags in its present most appropriate resting-place, the National Museum of Antiquities of Scotland.

IV.

CHAMBERED CAIRNS NEAR KILFINAN, ARGYLL. BY PROFESSOR
V. GORDON CHILDE, B.LITT., F.S.A. SCOT.

In describing the segmented cists of Arran, Professor Bryce mentioned the likelihood of finding similar structures along the shores of Loch Fyne.¹ As far as the western shore is concerned his prediction is verified by the discoveries at Balnabraid, south of Campbeltown,² and more recently at Auchoish, near Lochgilphead. The east side of the loch has, however, hitherto been a blank on the distribution map of such monuments. Now chambered cairns of the Arran type are only to be expected in the immediate hinterland of strips of raised beach platform or recent alluvium that provide well-drained, cultivable land adjacent to convenient landing-places. On the east side of Loch Fyne the land generally rises steeply from the shore to barren peaks or peat-covered plateaux of schistose rocks. Only in the vicinity of Kilfinan does the geological map show a considerable stretch of the well-drained soil that the builders of long cairns seem to have selected for settlement. The presence of copper lodes, recently worked, as near Kilmartin,

¹ *Proceedings*, vol. xxxviii. p. 77.

² *Ibid.*, vol. liv. p. 172.

provided an additional pointer to this district. Accordingly, seeing several cairns marked on the Ordnance Map, I visited the district with Mr Kilbride Jones, one of my students, at the end of March 1932, and found that two of the cairns indicated were indubitably of the chambered variety.

The first stands on the high moorland between the Kilfinan and Kilail Burns, less than $1\frac{1}{2}$ mile north of Kilfinan and about 1 mile from the shore. It occupies a slight depression on a small peat-covered plateau 220 yards due east of the road bridge that crosses the Allt Mor just south of Auchnaha Farmhouse. On climbing the ridge we

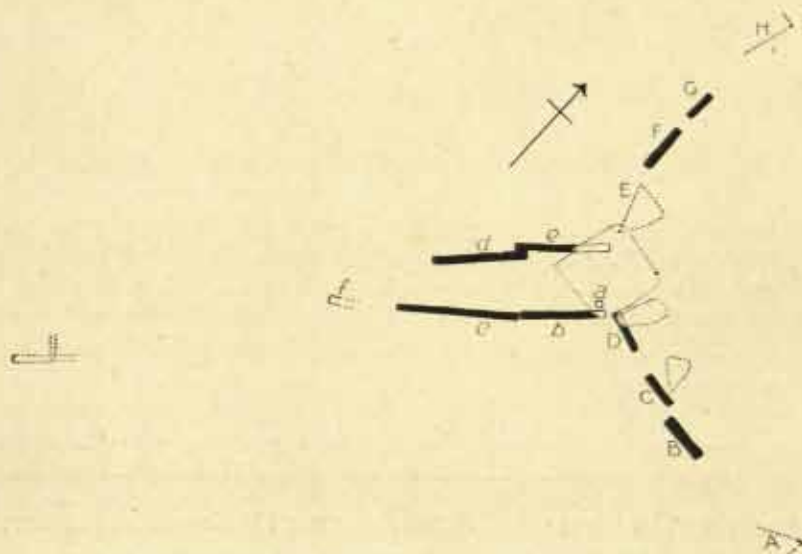


Fig. 1. Rough Plan of Chamber near Auchnaha (about $1\frac{1}{2}$).

were confronted with the imposing ruins of a denuded long cist with a semicircular façade of orthostats in front.

The attached sketch plan indicates the more salient features; the position of the principal uprights has been fixed by triangulation, but otherwise the plan makes no claim to accuracy, still less to completeness.

Of the cist itself two pairs of contiguous slabs projecting more than 4 feet above the turf enclose an incomplete chamber at least 17 feet long and 4 feet wide, orientated roughly north-east south-west. The entry lay to the north-east; the opposite end is still open, and earth-fast stones just visible through the heather suggest that the cist may have extended at least 6 feet further to the south-east. (The uprights *b*, *c*, *c*, and *d* are, respectively, 7 feet 4 inches, 7 feet 6 inches, 9 feet 8 inches,

and 8 feet in length, slab *e* overlapping slab *d* by about 1 foot, a feature characteristic of segmented cists.) Suggestions of a septal slab may be felt under the turf of the unexcavated chamber at the junction of the pairs of lateral slabs. Within the chamber near its opening is an upright pillar, presumably one jamb of the distinctive portal. Upon this pillar and the adjacent ends of the lateral slabs still rests a huge capstone which has, however, slipped forward into the semicircle in front.

The façade constitutes an additional link with Arran cairns, like



Fig. 2. Auchnaha : the Façade.

East Bennan and Carn Ban on Kilmory Water. Five orthostats are still erect, a sixth is slanting forwards, but the two terminal slabs are prostrate; other prone blocks in the area of the façade may likewise have fallen forward from it. The chord of the arc is 41 feet.

The bulk of the cairn must have been robbed in building a dyke which traverses the plateau about 200 yards to the south, and little is now visible through the peat. A little over 100 feet south-west of the portal of the chamber and set transversely to its main axis is a single standing stone. Since a stony ridge can be felt extending under the peat from the existing structure towards the standing stone it is likely that the latter marks the limit of the original cairn. A standing stone is similarly placed behind the segmented cist of Beacharra in Kintyre. Midway between the chamber and the menhir

are two apparently earth-fast slabs in line with a third at right angles to them. They may mark the site of a second cist of some sort.

On account of its continental parallels I regard the frontal semi-circle as an early feature in our chambered cairns. Tombs provided with it should be the first to be erected by the groups of immigrants landing on our shores. The situation of the Auchnaha chamber adjacent to a landing-place at Kilfinan is quite compatible with this view.

A mile and three-quarters across the moors north of the monument just described is Càrn Bàn, represented on the 6-inch Ordnance Map



Fig. 3. Auchnaha Chamber from the south.

as an obviously long cairn. It stands on the 600-foot contour, far below the summit of the ridge on the north bank of the deep glen Eas an Fhir, through which Kilail Burn flows, and about 160 yards east of the junction of a tributary flowing in from the north. The cairn has been wickedly denuded, presumable in building a dyke that runs about 100 yards to the west; only at the east end do a heap of large boulders and a couple of earth-fast slabs—apparently part of the peristalith—project above the turf. But stones extending under the turf down-hill westward suggest a former extension of the cairn to a maximum length of 81 feet. Thirty-seven and a half feet west of the presumed eastern peristalith are two earth-fast slabs in line running north and south. They are 4 feet 10 inches and 4 feet 2 inches long, respectively, with a gap of nearly 9 feet between them. Parallel to

the southern slab and 2 feet west of it is another, 3 feet 2 inches long. The space between is closed on the south by a third slab set obliquely to the others. We have here doubtless the remains of a long cist, at least 18 feet long, and presumably once opening to the north. At this point the cairn seems to have been $31\frac{1}{2}$ feet wide.

It may then be assumed that Cárn Bán represents the remnants of a second chambered cairn in this district, though here no further details can be determined.

The Bronze Age on the east side of Loch Fyne is represented by (1) a small round grassy mound about 25 feet in diameter, with a standing stone about 100 yards to the east of it, on the raised beach platform north of Kilfinan Burn and close to the shore; (2) possibly by a "cairn," now removed, that once occupied a very similar position just north of Kilail Burn at Otter Ferry; and (3) by a large cairn 50 feet in diameter nearly five miles farther north. The last named stands on the summit of a bluff that rises steeply from the loch to a height of 639 feet, and is isolated from the main plateau by the channels of small burns.

In the Iron Age the popularity of the Kilfinan district is attested by the presence of no less than five forts between the Kilfinan and Kilail Burns. The only one visited, Barr Iola, occupies the summit of a bare peak of rock rising from the plateau to a height of 531 feet almost midway between the two chambered cairns already described. A double-faced stone wall, 10 feet thick, is here visible joining up masses of outcrop and enclosing an oval space of 73 feet by 55 feet. There are traces of an entrance to the south-west, with a cell-like structure built on to the main wall just within it on the left. Farther round on the same side are suggestions of a cell in the thickness of the wall. On a platform, just below the fortified summit, is a spring, and on the opposite side of the fort the foundations of a rectangular enclosure about 15 feet by 8 feet are visible.

Less than a mile and a half north of Kilail Burn is a sixth fort, marked "cairn" on the Ordnance Map. It stands on the 550-foot contour on the ridge which separates the two arms of Largiemore Burn and subsequently rises gently to a marshy plateau 800 feet above O.D. All that survives is a ring of stones with an over-all diameter of 75 feet enclosing a peaty hillock. On the east contiguous slabs on edge clearly mark the true outer face of the wall. Traces of a coursed inner face are visible 10 feet inwards, while a gap to the west must mark an entrance. On the sloping boggy ground between the enclosure and the burn are three or four heaps of stones that might be small cairns and some possible hut-circles that might, however, be decayed shooting-butts.

The only prehistoric monuments north of those described seem to be a fort that dominates the little alluvial triangle at Strachur and a standing stone on the alluvial land itself. The fort occupies a small wooded knoll just south of Inverglenn Farmhouse, about 100 feet above O.D. The summit is defended by a well-built stone wall that has, however, been plundered and disturbed by tree planting. The masonry recalls broch building. Both faces are well preserved on the east, showing that the wall was 13 feet thick; on the west the construction has been badly disturbed, but it looks as if the space enclosed measured 36 feet across. A cell (or stair) is traceable in the thickness of the wall on the north-east and an entrance on the north-west. This gave on to a lower saddle, itself defended by a narrow stone wall in which no trace of building is visible. The whole structure recalls a broch, but cannot without excavation be distinguished from duns like Druim an Duin and Ardifuair on Poltalloch¹ or Suidhe Chennaidh on Loch Awe.² Indeed, all the three forts here noticed belong to a type well represented in Argyll.

Since this paper was read before the Society I have found that the chamber near Auchnaha had been described by Rev. Frank Knight in a paper read before the Glasgow Archaeological Society, which was only published in summary form in the *Glasgow Herald*, and accordingly was unknown to the author and the members of the Council of this Society to whom his paper was referred.

¹ *Proceedings*, vol. xxxix, pp. 286 and 183.

² *Ibid.*, vol. xxv, p. 120.

MONDAY, 9th May 1932.

THOMAS YULE, W.S., Vice-President, in the Chair.

A Ballot having been taken, the following were elected Fellows:—

G. A. DUNLOP, Director of Municipal Museum and Art Gallery, 52 Chester Road, Warrington, Lanes.

Rev. MARSHALL B. LANG, T.D., D.D., Whittingehame Manse, Haddington.

JAMES OSBORNE M'CABE, B.A., M.A., Fairfield, Bathgate, West Lothian.

W. A. MUNRO, D.Litt., Taynult, Newtown St Boswells.

DAVID GEORGE RAMSAY, M.A., B.Sc., Rector of Kirkcudbright Academy, Skair Kilndale, Kirkcudbright.

The name of THOMAS D. BATHGATE, Gersa Schoolhouse, Watten, Caithness, who was elected a Fellow at the meeting on 30th November 1931, was inadvertently omitted from p. 2 of this volume.

The following Donations to the Museum were intimated, and thanks voted to the Donors:—

(1) By R. W. NAPIER, F.S.A.Scot., F.R.S.A.

Circular Copper Pass bearing on one side KIRKCALDY/ST G/ or DYSART/FERRY/CABIN/N^o 3.

(2) By THEODORE E. SALVESEN, F.S.A.Scot., F.R.S.E.

Large Clasp-knife with a brass haft, engraved with floral designs, said to have been found on the battlefield of Culloden.

(3) By The Hon. Sir HEW H. DALRYMPLE, K.C.V.O., F.S.A.Scot.

Silver Medal of Cromwell, commemorating the Battle of Dunbar. *Obv.* Head of Cromwell with the inscriptions THE LORD OF HOSTS and WORD AT DUNBAR SEPTEM Y 3 1650. *Rev.* A view of the House of Commons in session.

(4) By A. M. SHARP, F.S.A.Scot.

Shield-shaped Medal of Gold, commemorating the First Scottish International Aviation Meeting at Lanark in 1910.

(5) By CHARLES MOXON, F.S.A.Scot.

Snuff-box of sycamore, made by Gibson, Cumnock.

(6) By A. M. BRIDGES, 157 South Street, St Andrews.

Tailor's Smoothing Stone in the form of a stone axe, measuring 7½ inches in length.

Old Knife and Fork with bone handles.

Old Razor with horn handle.

Cylindrical Wooden Box containing sixteen matches. On a label on the side is printed "Superior Congreve Matches from one of the greatest and most famous German manufactories I N E."

(7) By JOHN R. FORTUNE, Corresponding Member.

Leaf-shaped Arrow-head, wanting the point; lop-sided Arrow-head, imperfect; two Scrapers, measuring $1\frac{5}{16}$ inch by $\frac{7}{8}$ inch and $\frac{7}{8}$ inch by $\frac{3}{4}$ inch; pointed Implement, measuring $\frac{7}{8}$ inch by $\frac{9}{16}$ inch; part of a Knife, dressed along both sides; sub-triangular Implement, measuring $1\frac{3}{8}$ inch by $1\frac{9}{16}$ inch; half of a Slug-shaped Implement, all of grey and light grey Flint, and a Stone Whorl, measuring $1\frac{1}{2}$ inch in diameter and $\frac{1}{32}$ inch in thickness, decorated on both faces with incised concentric circles, the edge being encircled by two incised parallel lines near each side. Found at Airhouse, Channelkirk, Berwickshire.

(8) By The Right Hon. THE EARL OF DALKEITH, M.P., Eildon Hall, St Boswells.

Twelve socketed Bronze Axes, found together, along with other two, near Kalemouth, Roxburghshire, by Mrs Cochran, Kalemouth House (fig. 1). The length, breadth across cutting edges, and external measurements of sockets are:

- (1) $3\frac{1}{2}$ inches, $2\frac{1}{8}$ inches, and $1\frac{7}{16}$ inch by $1\frac{9}{16}$ inch.
- (2) $3\frac{1}{2}$ inches, $2\frac{1}{8}$ inches, and $1\frac{7}{16}$ inch by $1\frac{9}{16}$ inch.
- (3) $3\frac{3}{8}$ inches, $1\frac{5}{16}$ inch, and $1\frac{1}{2}$ inch by $1\frac{7}{16}$ inch.
- (4) $3\frac{3}{8}$ inches, $2\frac{1}{8}$ inches, and $1\frac{1}{2}$ inch by $1\frac{9}{16}$ inch.
- (5) $3\frac{7}{16}$ inches, $2\frac{1}{8}$ inches, and $1\frac{7}{16}$ inch by $1\frac{9}{16}$ inch.
- (6) $3\frac{3}{8}$ inches, 2 inches, and $1\frac{7}{16}$ inch by $1\frac{9}{16}$ inch, given by Lord Dalkeith to Mrs Cochran.
- (7) $3\frac{7}{16}$ inches, $2\frac{1}{8}$ inches, and $1\frac{7}{16}$ inch by $1\frac{9}{16}$ inch, given by Lord Dalkeith to the Museum in "Queen Mary's House," Jedburgh.
- (8) $3\frac{1}{2}$ inches, $2\frac{1}{8}$ inches, and $1\frac{7}{16}$ inch by $1\frac{9}{16}$ inch.
- (9) $3\frac{1}{2}$ inches, $2\frac{9}{16}$ inches, and $1\frac{1}{2}$ inch by $1\frac{1}{2}$ inch.
- (10) $3\frac{5}{16}$ inches, $2\frac{1}{8}$ inches, and $1\frac{11}{16}$ inch by $1\frac{9}{16}$ inch.
- (11) $3\frac{1}{2}$ inches, $2\frac{1}{8}$ inches, and $1\frac{11}{16}$ inch by $1\frac{9}{16}$ inch.
- (12) $3\frac{3}{8}$ inches, $2\frac{1}{8}$ inches, and $1\frac{11}{16}$ inch by $1\frac{9}{16}$ inch.
- (13) $3\frac{11}{16}$ inches, $2\frac{3}{8}$ inches, and $1\frac{9}{16}$ inch by $1\frac{9}{16}$ inch.
- (14) $3\frac{1}{16}$ inches, $2\frac{1}{8}$ inches, and $1\frac{11}{16}$ inch by $1\frac{1}{2}$ inch.

Plaster casts of Nos. 6 and 7 have been made in the Museum by Mr Edwards, and are displayed with the other twelve axes.

The first seven seem to have been made from one model, presumably in clay moulds, and, generally, they show the joint between the halves of the mould, not filed off, but hammered down. No. 1 shows the cutting

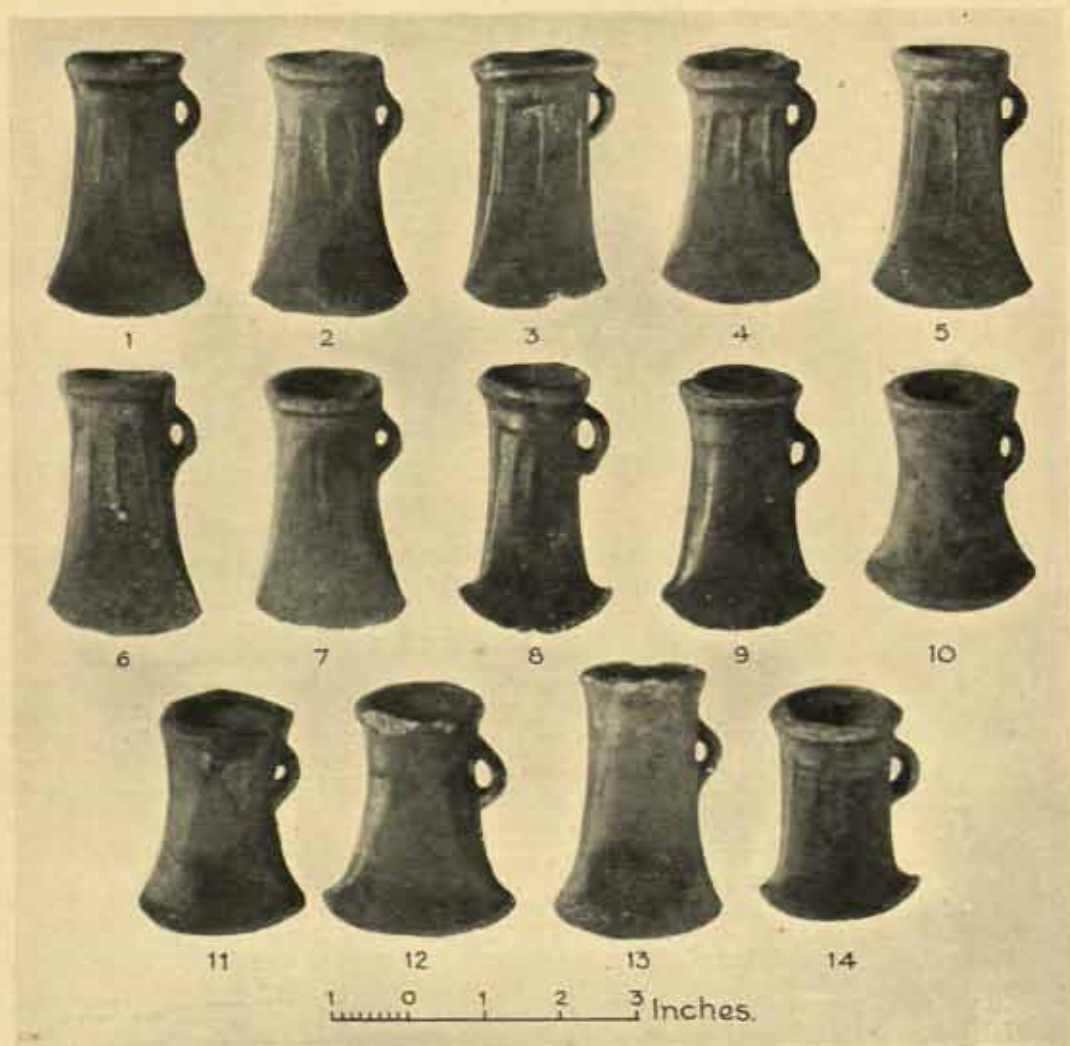


Fig. 1. Hoard of Socketed Bronze Axes found near Kalemouth, Roxburghshire.

edge quite ragged and undressed, just as it came from the mould. All these, as well as No. 8, are surrounded under the mouth by a moulding from which hang three ribs on each side, and No. 14 exhibits the same number of ribs hanging from a double moulding. No. 9 has a very slight

moulding; Nos. 10 and 11 are plain; and Nos. 12 and 13 have a slight thickening for three-quarters of an inch under the mouth of the socket. The sockets in the first nine axes are squarish with rounded corners, but the others are more oval. Nos. 3 and 5 show traces of hammering near the cutting edge, and Nos. 3, 9, 10, and 11 signs of grinding along it. The axes are in good condition, and are covered with patinas ranging from brown to dark green. Several of the axes look as if they had been tinned in places, but this may be due to some chemical alteration in the surface of the metal. Bronze Age hoards can usually be divided into three categories—personal, merchants', and founders'. This is evidently a merchant's hoard.

(9) By IAN G. WILSON, 4 Warrender Park Crescent, Edinburgh.

Staff formed from a branch of whin, $19\frac{1}{4}$ inches long, found in an old working in a coal pit at Niddrie, Midlothian, by Robert Baxter, mine manager, grandfather of the donor. This staff is believed to have been used by one of the women who carried up the coal in creels on their backs. Three inches from the top is a deep hollow worn by the thumb.

(10) By J. LOGAN MACK, F.S.A.Scot., F.S.A.

Small pot of Lambeth Delft, of yellow colour, $2\frac{1}{8}$ inches in height, found 15 feet below the surface in London.

(11) By A. D. LACAILLE, F.S.A.Scot.

Early Neolithic Tool, of whitish Flint, of Thames pick type, $4\frac{1}{8}$ inches in length, found by the donor in a field near Iver, Bucks.

(12) By Rev. A. A. MILNE, F.S.A.Scot.

Twenty-two Communion Tokens.

The following Purchase for the Museum was announced:—

Highland flat ring Brooch of Brass, measuring $3\frac{1}{4}$ inches in diameter, with its original pin, with split head, complete. On the front are engraved seven large rings with a dot in the centre, at irregular intervals, and, between them, oblong panels filled with ornamentation consisting of from two to four reversed S-shaped designs, placed close together and simulating a Black Letter inscription. In places it shows a dark green patina. Found near St Clement's Church, Rodil, Harris.

The following Donations to the Library were intimated, and thanks voted to the Donors:—

(1) By R. MURDOCH LAWRENCE, F.S.A.Scot., the Author.

William Sherer Aitken, Minor Poet and Volunteer. Reprinted from *The Banffshire Journal*, 8th March 1932.

(2) By JAMES CURLE, LL.D., F.S.A.Scot., F.S.A.

Tête d'un Jeune Chef Aquitain. Par Raymond Lantier. (Extrait des "Monuments et Mémoires" publié par l'Académie des Inscriptions et Belles-Lettres (Tome XXXI). Paris, 1931.

(3) By ROBERT DOUGLAS, M.A., M.D., D.P.H., Deloraine, Elgin.

The Dovecots of Moray. Elgin, 1931.

(4) By H.M. GOVERNMENT.

Acts of the Privy Council of England, 1621-1623. London, 1932.

Register of Edward the Black Prince. Part III. A.D. 1351-1365. London, 1932.

(5) By the Misses MURRAY, Moore Park, Cardross, Dumbartonshire.

Papers relating to the Society of Antiquaries of Scotland, 1778-1787.

(6) By Captain GEORGE W. HAWS, 13 Avondale Road, Hoylake, Cheshire.

Extracts from the Recollections of Marie Cufaude. Edited by F. C. Lefroy. Typed copy, 1930.

(7) By Professor A. W. BRØGGER, Hon. F.S.A.Scot., the Author.

Instituttet for Sammenlignende Kulturforskning. Serie C 11-4. Nord-Norges Bosetningshistorie.

The following Purchases of Books for the Library were intimated:—

Musées Royaux d'Art et d'Histoire à Bruxelles. Belgique Ancienne. Catalogue Descriptif et Raisonné. Par le Baron de Loe. II. Les Ages du Métal. Bruxelles, 1931.

The Battle of Bannockburn: a Study in Mediæval Warfare. By W. Mackay Mackenzie, M.A. Glasgow, 1913.

The Bannockburn Myth. By W. Mackay Mackenzie, M.A., D.Litt., F.S.A.Scot. Being a Reply to the Pamphlet of the Historical Association entitled "The Site of the Battle of Bannockburn." Edinburgh, 1932.

The following Communications were read:—

I.

THE PERTH PSALTER. BY FRANCIS C. EELES,
F.S.A.Scot.

Scottish liturgical books that have come down to us from before the Reformation are proverbially few, though it is true the number collected at the Glasgow Exhibition of 1911 showed that there are more than used to be generally realised. Since that time a few others have come to light, and I know of about half a dozen that have never been described. The Perth Psalter, which is the subject of this paper, was shown at Glasgow in 1911 and was briefly described in the Exhibition Catalogue.

The Perth Psalter was long in the possession of the late Mr John Ferguson, who lived at Duns in Berwickshire, and it was acquired by the National Library of Scotland last year. It is a small book on 226 leaves of vellum, $4\frac{1}{8}$ inches by $2\frac{1}{8}$ inches, with 18 lines on each page. Internal evidence shows that it was probably written in the latter part of the fifteenth century. The hand has certain resemblances to English writing of the time, but in other respects it resembles Low Country or even German work. The illuminated initials and borders most nearly resemble those of a certain class of fifteenth-century Netherlandish work often found in books prepared for export, but it seems possible to detect traces of both English and French influence. We have so few Scottish manuscripts with which to compare it that it is difficult to express an opinion as to date, but it is certainly earlier than the Arbuthnot manuscripts. This would place it somewhere about 1475, but this is only a suggestion.

Its connection with Perth is established by the entry in the kalendar on 3rd September, *Dedicacio ecclesie de perth*.

The book includes kalendar, psalter, canticles, and most of the litany. The latter is imperfect, but is identical with litanies in the Sarum books as far as it goes, save that it includes a few Scottish saints. The kalendar also is practically the normal Sarum kalendar with a few insignificant omissions but with the addition of Scottish saints. These last constitute the chief interest of the book, and while some few are in the original hand of the manuscript, the majority are later additions made by a cursive hand, probably in the sixteenth century. This is what we find in other Scottish liturgical books. It would seem as if Bishop Elphinstone's Aberdeen Breviary gave a distinct stimulus to the cultus of Scottish

saints, even if it did not produce any considerable amount of uniformity in the observance of their days. The later entries here include so many names common to the Aberdeen Breviary as to suggest the influence of that book, but on the other hand there is no attempt to follow the Aberdeen Kalendar at all closely. Many important feasts in it have not been added here, and several additions have been made which are not in the Aberdeen Kalendar, some of them very unusual and one or two not found elsewhere up to the present.

The names in the original hand are those of SS. Fillan (9 Jan.), Kentigern (13 Jan.), Monan (1 Mar.), David (3 Mar.), Adrian (5 Mar.), Baldred (6 Mar.), Duthac (8 Mar.), Kessog (10 Mar.), Constantine (11 Mar.), Patrick (17 Mar.), Gilbert (1 April), Columba (9 June), Margaret of Scotland (19 June), Moloc (25 June), Serf (1 July), Ninian (16 Sept.), Triduana (8 Oct.), Marnoc (25 Oct.), Bean (26 Oct.), Margaret of Scotland (16 Nov.).

All these are feasts of very general observance in Scotland and all are in the Aberdeen Breviary. Taken by themselves, they are what might be looked for anywhere in central Scotland.

The Scottish additions in a later hand are: SS. Kentigerna (7 Jan.), Vininus (21 Jan.), Voloc (29 Jan.), Modoc (31 Jan.), Modan (4 Feb.), Finan (17 Feb.), Colman (18 Feb.), Kevoca (13 Mar.), Regulus (30 Mar.), Olave (30 Mar.), Conquhar* (3 May), Translation of St Andrew (9 May), Congal (10 May), Colmoc* (7 June), Blane (13 Aug.), Aidan (31 Aug.), Colmonelus* (26 Sept.), Conval (28 Sept.), Notarius* (28 Sept.), Boniathus* (19 Oct.), Mund (21 Oct.), Kennera (29 Oct.), Mabucus* (31 Oct.), Baya (3 Nov.), Moroc (8 Nov.), Machar (12 Nov.), Vymocus* (27 Nov.), Bartanus* (4 Dec.), Finnan* (12 Dec.), Drostan (14 Dec.), Manirus (18 Dec.).

Of these, all except the nine marked * occur in the Aberdeen Breviary. They include a few definitely north of Scotland saints, like SS. Machar, Drostan, and Manirus, and it seems fairly certain that they must have been added after the Aberdeen Breviary was printed in 1509-10.

There are two variants in date. St David, usually on 1st March, is on the 3rd here, as in the Aberdeen Book of Hours at Duns Castle, and in the Holyrood Ordinale, displaced no doubt by St Monan and St Marnan. St Congal, on the 12th of May in the Aberdeen Breviary, Epistolary, and Martyrology, is here on the 10th, as in the Fearn Kalendar and as in the manuscript additions in a Sarum printed missal used in St Nicholas, Aberdeen, and described in vol. xxxiii of our *Proceedings* (1898-9, pp. 440 seq.).

The nine entries which are not in the Aberdeen Breviary include

some interesting problems, as most of them have not hitherto been found in any other Scottish kalendar.

On 3rd May Conquarus is probably the same as Concadus, who appears on this day in the manuscript additions to the missal of St Nicholas, Aberdeen. He seems to be the patron of Kilconquhar in Fife.

St Colmonelus (26 Sept.) has not been found in other Scottish books. He is the patron of Colmonell in Ayrshire, and of Kilcalmonell in Argyllshire. He is said to have been the son of Nior, sister of St Columba, and to have died in A.D. 610.

St Notarius (28 Sept.) is likewise unknown in any other kalendar at present, and the same may be said of St Boniathus (19 Oct.) and St Mabucus (31 Oct.). St Vymocus (27 Nov.) occurs as St Virnocus in the additions to the copy of the Aberdeen Breviary in the National Library, and St Bartanus (4 Dec.) is another entry which is at present unique: he may be the Bathanus or Baitanus commemorated at Abbey St Bathans in Berwickshire, and also at Gifford and Bowden. Can Mabucus be the same as Mabrec at Kirkmabreck in Wigtonshire?

It would seem as if these additions, which are not in the Aberdeen Breviary, are south of Scotland saints, of which we know little or nothing at present.

As usual in Scottish kalendars we find certain saints' names added which do not properly belong to the Sarum kalendar and yet are not Scottish. Most of them but indicate the *cultus* of saints imported from current continental usage. Such are SS. Anthony (17 Jan.), Appolonia (9 Feb.), Bonaventura (14 Feb.), Longinus (15 Feb.), Joachim (17 Mar.), Gabriel (18 Mar.), Joseph (19 Mar.), Vincent (5 April), Wilfrid (24 April), Anthinenus, *i.e.* Antoninus (2 May), [Translation of] St Nicholas (9 May), Erasmus (3 June), S. Marie de Nivibus (6 Aug.), Roch (16 Aug.), Bernard (20 Aug.), Martha (30 Aug.), Severus (22 Oct.), Presentation of St Mary (21 Nov.), Barbara (3 Dec.), Magnus, martyr and abbot (15 Dec.).

Many of these names are in the kalendar of the Aberdeen Breviary, but a few, such as St Gabriel and St Wilfrid, are not. St Wilfrid is, of course, connected with the north of England, and is of rare occurrence in Scotland. There is a special reason for St Severus, Bishop of Ravenna, as he had an altar in the church. Why, it is difficult to say, unless the church possessed a relic of him, which seems the most probable explanation.

Some of these names, like SS. Joachim, Gabriel, and Antoninus, suggest Franciscan influence.

Strange confusion is evident in the entry of St Magnus, martyr and

abbot, on the 15th December. No less than three saints of the name of Magnus have been mixed up. St Magnus, abbot, who was not a martyr, is usually commemorated on the 6th September; St Magnus the martyr, who was a bishop, on the 19th August; while the 13th December is the day of the translation of St Magnus the king in Aberdeen and Trondhjem books.

Turning now to the Litany, we find the names of very few local saints, and these few a rather strange selection. The only Scottish martyr is St Constantine and the only woman is St Brigid. The Scottish confessors are SS. Ninian, Monan, Patrick, Kentigern, Cuthbert, Fillan, and Duchanus. The last is not in the kalendar. He may be Duncan or Dunchad, abbot of Iona, but we find him in the same form, Duchanus, as patron with SS. Crispin and Crispinian, of the Shoemakers' altar in the parish church of Perth.¹

In view of the small size and general character of the book, it must be regarded as more likely the private property of someone closely connected with the church rather than as being church property for actual and regular use there.

The psalter is bound in calf and lettered on the back LIBER PSALMORUM ET PRECUM. The edges have been cut at the time it was last re-bound, probably some time in the eighteenth century. There is a modern leaf of waste at each end.

On a leaf of waste at the beginning are pasted two paper cuttings containing the following:—

- (1) In an eighteenth-century hand:

Alexr. Boswel.

- (2) In another hand:

Douy
R.M.Io. Adams
V.D.M. apud
Falaum fanum
1749.

From this we gather that the book was taken to the Continent at or after the Reformation, and that it found its way into Alexander Boswell's collection some time in the eighteenth century.

A complete transcript follows of all the entries in the kalendar, with an indication of the contents of the rest of the book.

The saints' days and other commemorations in the kalendar have

¹ R. S. Fettes, *Ecclesiastical Annals of Perth*, 1885, pp. 307-8.

been printed exactly as they stand in the manuscript, but the days of the month are indicated by consecutive arabic numerals in place of the Roman numeration of the original. All contractions have been retained save in a few cases where it has been thought desirable to extend within square brackets. "ix l" = festum novum lectionum—that is to say, there were nine lessons at Matins. "de quocunque confessore" means that the service to be used was the Common service of any confessor and not one proper to that particular day. "ū nō m" = uirginis non martiris. The symbol † has been used to draw attention to the fact that the text has been adhered to exactly even where it seems certain that there has been a mistake.

[JANUARY]

- | | |
|--|---|
| 1. KL <i>Ianuarij Circumcisio domini</i> | 17. Sancti supplicij † episcopi antonij |
| 2. Oct' sancti stephani | ab ^t |
| 3. Oct' sancti iohannis | 18. Sancte prisce uirginis |
| 4. Oct' sanctorum innocencium | 19. Sancti Wlstanti episcopi |
| 5. Oct' sancti thome | 20. S' fabiani et sebastiane † |
| 6. <i>Epiphania domini</i> | 21. Sancte agnetis uirginis vinini ep̄i |
| 7. Kentegerne matrone ix l | 22. Sancti vincencij martiris |
| 8. Sancti luciani | 23. |
| 9. Sancti felani abbatis | 24. |
| 10. | 25. <i>Conuersio s' pauli</i> |
| 11. | 26. |
| 12. | 27. Sancti iuliani episcopi |
| 13. Oct' epiphanie S' Kentigerni | 28. Sancte agnetis secundo |
| 14. S' felices inpincis | 29. voloci ep̄i ix l |
| 15. Sancti mauri abbatis | 30. Sancte batildis regine |
| 16. Sancti marcelli pape | 31. modoci ep̄i ix l |

[FEBRUARY]

- | | |
|---|-----------------------------------|
| 1. S' brigide virginis | 15. |
| 2. <i>Purificacio sancte marie</i> | 16. Sancte Iuliane virginis |
| 3. Sancti blasij episcopi et martiris | 17. finini † ep̄i ix l |
| 4. modani abbatis ix | 18. colmani ep̄i ix l |
| 5. Sancte agathe virginis | 19. |
| 6. Sanctorum vedasti et amandi | 20. |
| 7. | 21. |
| 8. | 22. <i>Cathedra sancti petri</i> |
| 9. appolonie ug^{is} et m' | 23. |
| 10. Sancte scolastice virginis | 24. <i>Sancti mathei apostoli</i> |
| 11. | 25. |
| 12. | 26. |
| 13. | 27. |
| 14. Sancti valentini | 28. |

[MARCH]

- | | |
|---------------------------------------|---|
| 1. S' monani | 17. S' patricij episcopi Ioachim de |
| 2. S' Cedde episcopi | q^cc[unque confessoris] |
| 3. S' dauid episcopi | 18. S' edwardi regis gabriel |
| 4. | 19. Joseph conf duplex |
| 5. S' adriani sociorum † eius | 20. S' cuthberti confessoris |
| 6. S' baldredi episcopi | 21. S' benedicti abbatis |
| 7. S' thome de aquino | 22. |
| 8. S' duthaci episcopi episcopi † | 23. |
| 9. | 24. |
| 10. S' kessogi episcopi | 25. <i>Annunciacio s' marie</i> |
| 11. S' constantini regis | 26. |
| 12. S' gregorij pape | 27. <i>Resurreccio domini</i> |
| 13. keuoce v'ginis no' m'tiris | 28. |
| 14. bonauēture epi co du[ple]x | 29. |
| 15. longini mar ix l | 30. Regulj conf^{is} duplex olaui |
| 16. S' bonifaci † episcopi | 31. regis et m'tiris |

[APRIL]

- | | |
|--------------------------------|--|
| 1. S' gilberti episcopi | 16. |
| 2. S' marie egyptiace | 17. |
| 3. S' ricardi episcopi | 18. |
| 4. S' ambrosij episcopi | 19. S' alphegi archiepiscopi |
| 5. vincencii epi duplex | 20. |
| 6. | 21. |
| 7. | 22. |
| 8. | 23. S' georgij martiris |
| 9. | 24. wilfridi epi et con[fessoris] |
| 10. | 25. <i>S' marci ewangeliste</i> |
| 11. | 26. |
| 12. | 27. |
| 13. | 28. S' vitalis martiris |
| 14. S' tyburcij et valer[iani] | 29. |
| 15. | 30. |

[MAY]

- | | |
|---|-------------------------------|
| 1. <i>Apostolorum philippi et i[acobi]</i> | 16. |
| 2. anthoēni epi et co[nfessoris]/ix l | 17. |
| 3. <i>Inuencio sancte crucis</i> | 18. |
| conqu[a]rii epi | 19. S' dunstani archiepiscopi |
| ix l | 20. |
| 4. | 21. |
| 5. | 22. |
| 6. <i>S' iohannis ante portam latinam</i> | 23. |
| 7. | 24. |
| 8. | 25. S' aldelmi episcopi |
| 9. <i>Translacio s' andree S' nicholae</i> | 26. |
| 10. S' gordiani et epimachi congallj | 27. augustini epi ix l |
| 11. ix l | 28. |
| 12. | 29. S' germani episcopi |
| 13. | 30. |
| 14. | 31. S' petronelle uirginis |
| 15. | |

[JUNE]

- | | | |
|-----------------------------------|---|---------------|
| 1. S' nichomedis | 16. S' cirici et iulite | |
| 2. S' marcelli † et petri | 17. S' botulfi abbatis | |
| 3. Erasmī epi et martiris | 18. | |
| 4. | 19. <i>S' margarete regine</i> | |
| 5. S' bonifaci soc[iorumque eius] | 20. Translacio s' edwardi | |
| 6. | 21. | |
| 7. colmoci epi ix 1 | 22. | |
| 8. | 23. | <i>vig'</i> |
| 9. S' columbe abbatis | 24. <i>Natiuitas s' iohannis baptiste</i> | |
| 10. | 25. S' moloci episcopi | |
| 11. <i>S' barnabe apostoli</i> | 26. S' iohannis et pauli | duachj |
| 12. | 27. epi et conf ix 1 | |
| 13. | 28. S' leonis pape | <i>vig'</i> |
| 14. S' basilij episcopi | 29. <i>Apostolorum petri et pauli</i> | |
| 15. | 30. Commemoracio s' pauli | |

[JULY]

- | | | |
|--|---------------------------------|---------------------|
| 1. S' seruani episcopi | 17. S' kenelmi regis | |
| 2. <i>Visitacio s' marie</i> | 18. S' arnulfi episcopi | tenu v[ni]us |
| 3. S' processi et martiniani | | mat'ne |
| 4. Translacio s' martini | 19. | |
| 5. | 20. S' margarete virginis | |
| 6. palladii epi scotor[um] aplj | 21. | |
| 7. Translacio s' thome | 22. S' maria † magdalena † | |
| 8. | 23. | |
| 9. | 24. S' cristine virginis | <i>vig'</i> |
| 10. S' vij fratrum | 25. <i>S' iacobi apostoli</i> | |
| 11. <i>Translacio s' benedicti</i> | 26. <i>S' anne matris marie</i> | |
| 12. | 27. S' vij dormiencium | |
| 13. | 28. | |
| 14. | 29. | |
| 15. S' swythuni episcopi | 30. | |
| 16. | 31. S' germani episcopi | |

[AUGUST]

- | | | |
|--|---|----------------------------------|
| 1. <i>Ad uincula s' petri</i> | 17. Oct' s' laurenci † | |
| 2. S' stephani pape | 18. S' Agapiti martiris | |
| 3. Inuencio s' stephani | 19. S' magni martiris | |
| 4. | 20. barnardj ab^{tis} ix 1 | |
| 5. S' oswaldi regis | 21. | |
| 6. marie de niuibus die | 22. Oct' s' marie | |
| 7. S' donati episcopi | 23. ebbe u'ginis nō m' ix 1 | <i>vig'</i> |
| 8. | 24. <i>S' bartholomei apostoli</i> | |
| 9. S' romani M ^r † | 25. | |
| 10. S' laurencij martiris | 26. | |
| 11. S' tybureij martiris | 27. S' Rufi martiris | |
| 12. | 28. S' augustini episcopi | |
| 13. | 29. <i>Decol' s' iohannis baptiste</i> | |
| 14. | 30. m'the u'gnis nō m' | |
| 15. <i>Assumpcio . s' . marie</i> | 31. S' cuthburge uirginis | |
| 16. rochi conf cu[iuscun]que ix 1 | | [eo]d' die adanj epi ix 1 |

[SEPTEMBER]

- | | |
|---------------------------------------|---|
| 1. S' egidij abbatis | 16. S' niniani episcopi |
| 2. | 17. S' lamberti episcopi |
| 3. <i>Dedicacio ecclesie de perth</i> | 18. |
| 4. Translacio s' euthberti episcopi | 19. |
| 5. | 20. |
| 6. | 21. S' mathei apostoli et ewangeliste |
| 7. | 22. S' mauri soc[lorumque eius] |
| 8. <i>Natiuitas s' marie</i> | 23. S' tecle virginis |
| 9. S' gorgonij martiris | 24. |
| 10. | 25. S' firmini episcopi |
| 11. S' prothi et iacineti martirum | 26. S' cypriani episcopi colmonelj ix [1] |
| 12. | 27. S' cosme et damiane |
| 13. | 28. conuallj ep notarij conf'o ^{ris} |
| 14. <i>Exaltacio s' crucis</i> | 29. S' michaelis archangeli |
| 15. | 30. S' ieronime presbyteri |

[OCTOBER]

- | | |
|-----------------------------------|---|
| 1. S' germani et re[migii] | 18. S' luce ewangeliste |
| 2. S' leodegarij episcopi | 19. boniachj epi ix |
| 3. | 20. |
| 4. S' francisci confessoris | 21. S' vndecim M' uirginum mundi |
| 5. | abbatis |
| 6. S' fidis virginis | 22. seuerj epi |
| 7. S' marci et marcelliani | 23. S' roman[i] ¹ episcopi |
| 8. S' triduane virginis | 24. |
| 9. S' dionisij soc[lorumque eius] | 25. S' mernoci episcopi |
| 10. S' gereonis | 26. S' beane episcopi |
| 11. S' nigasii soc[lorumque eius] | 27. |
| 12. | 28. <i>Apostolorum symonis et iude</i> vig' |
| 13. Translacio s' edmundi regis | 29. kenere ū nō m̄ |
| 14. S' kalixti pape | 30. |
| 15. S' Wlfranni episcopi | 31. S' quintini martiris |
| 16. <i>Michaelis in monte</i> | mabutj ab ^{tis} ix 1 |
| 17. | |

[NOVEMBER]

- | | |
|--|---------------------------------------|
| 1. <i>Sollempnitas omnium sanctorum</i> | 16. S' margarete regine |
| 2. Commemoracio defunctorum | 17. S' aniani episcopi |
| 3. baye u' nō m' ix 1 | 18. St + martini |
| 4. | 19. |
| 5. | 20. S' eadmundi regis et [martiris] |
| 6. S' leonardi abbatis | 21. present[ac]io sctē marie |
| 7. | 22. S' cecilie uirginis |
| 8. Sanctorum iij ^{or} coronatorum | 23. S' clementis pape |
| moroci epi | 24. S' grisogoni martiris |
| 9. S' theodorj martiris ix | 25. S' katerine virginis |
| 10. | 26. S' lini pape |
| 11. S' martini episcopi | 27. vymocj ab ^{tis} ix |
| 12. macharij epi | 28. |
| 13. S' bricij episcopi | 29. S' saturnini et sisinij |
| 14. | 30. <i>Sancte andre apostoli</i> vig' |
| 15. S' machuti episcopi | |

¹ Hole in vellum.

[DECEMBER]

1. Elegij epi	17.	
2.	18. sti' manrj ep'	
3. barbare v' et m' ix	19.	
4. eod' bartanj	20.	<i>vigilia</i>
5.	21. S' thome apostoli	
6. S' nicholae episcopi	22.	
7. Oct' s' andree apostoli	23.	
8. Concepcio s' marie	24.	<i>vigilia</i>
9.	25. Natiuitas domini nostri ihesu	
10.	26. Sancti stephani protho [martiris]	
11.	27. Sancti iohannis euangeliste	
12. finnani ab ^{tis} ix 1	28. Sanctorum innocencium	
13. S' lucie virginis	29. Sancti thome archiepiscopi	
14. Drostani	30.	
15. magni m'tiris ab ^{tis}	31. S' siluestri pape	
16.		

fo. 1] Beatus uir [the rest of the psalter follows in order].

fo. 196v] Confitebor tibi, Ego dixi, Exultauit cor, Cantemus, Domine audiui, Andite celi

fo. 208v] Benedicite, Te deum, Benedictus, Magnificat, Nunc dimittis, Quicumque uult

fo. 216] Ne reminiscaris . . .

Kyrieleyson [the Litany follows here down to Neque secundum iniquitates nostras retribu . . . at the end of fo. 220r, which now forms the end of the MS., all the rest being lost].

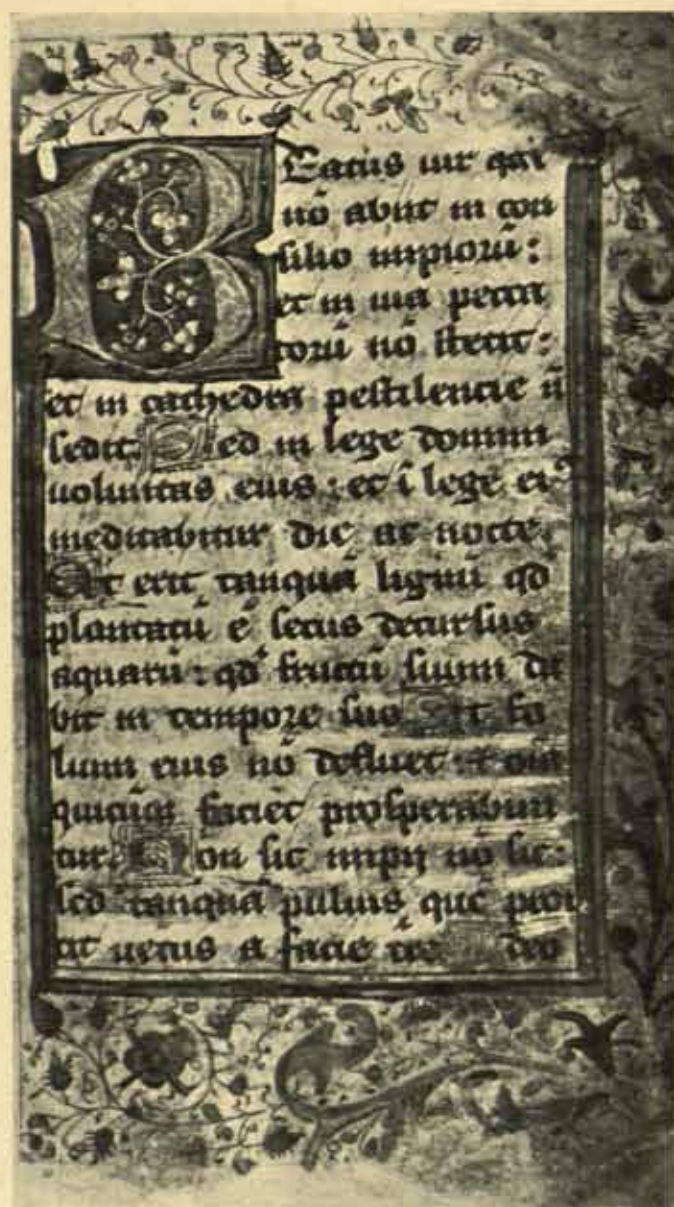


Fig. 2. First page of Psalter.

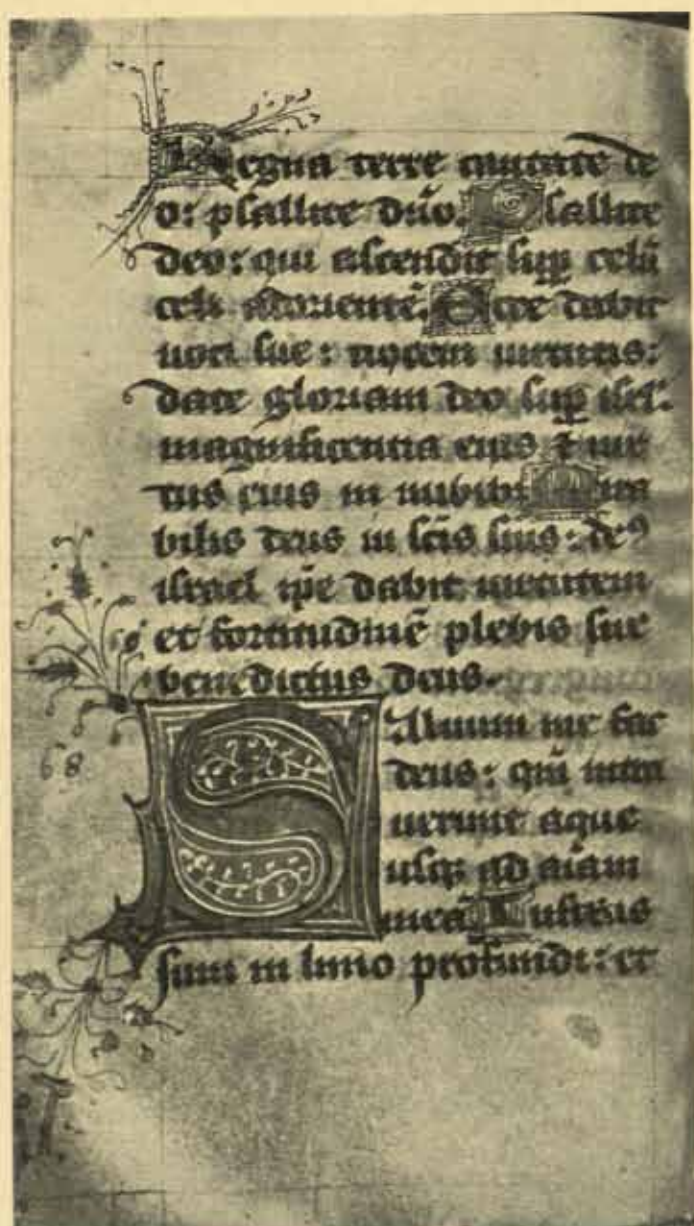


Fig. 3. Parts of Pss. 67 and 68 (Vulgate numeration).

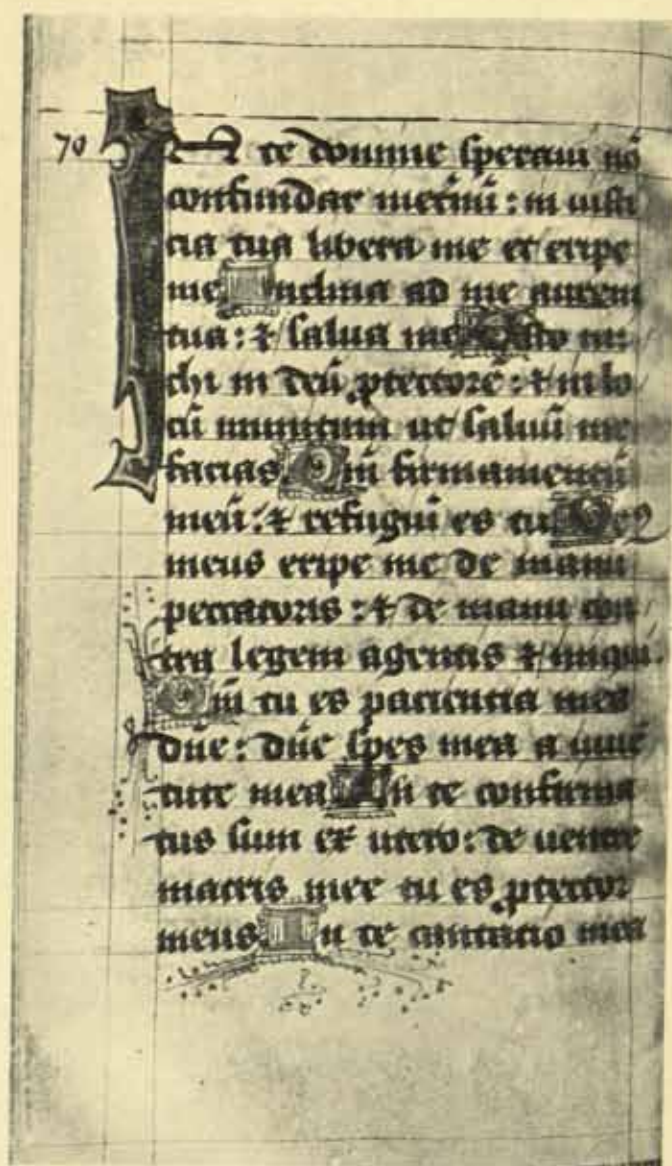


Fig. 4. Part of Ps. 70 (Vulgate numeration).



Fig. 5. Part of Ps. 80 (Vulgate numeration).

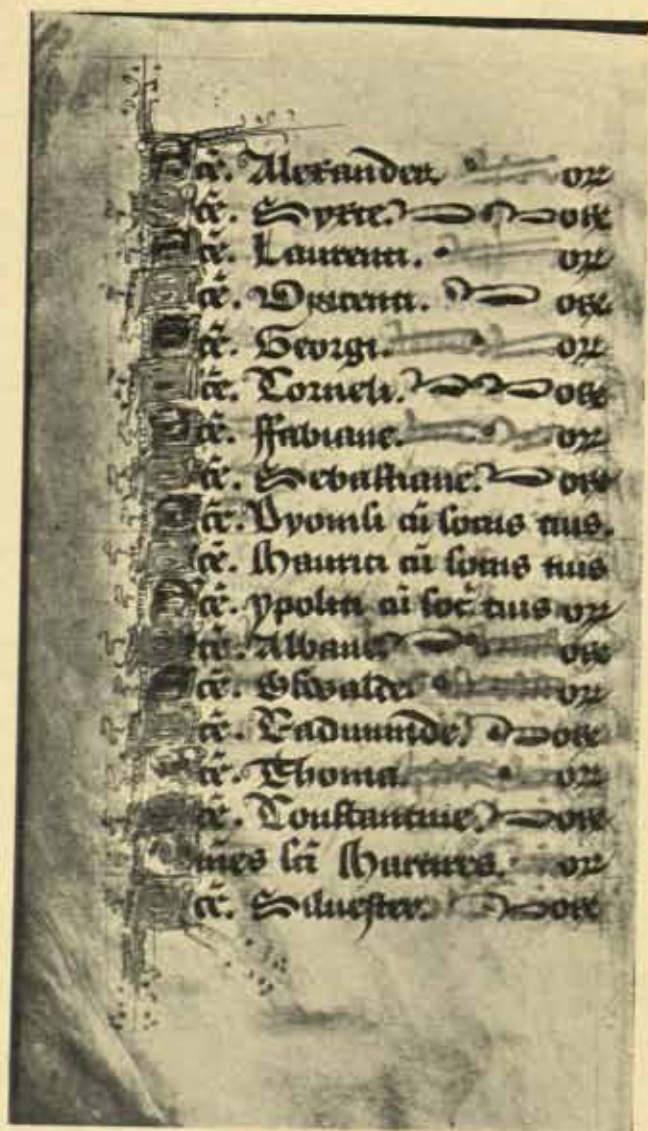


Fig. 6. Part of Litany.

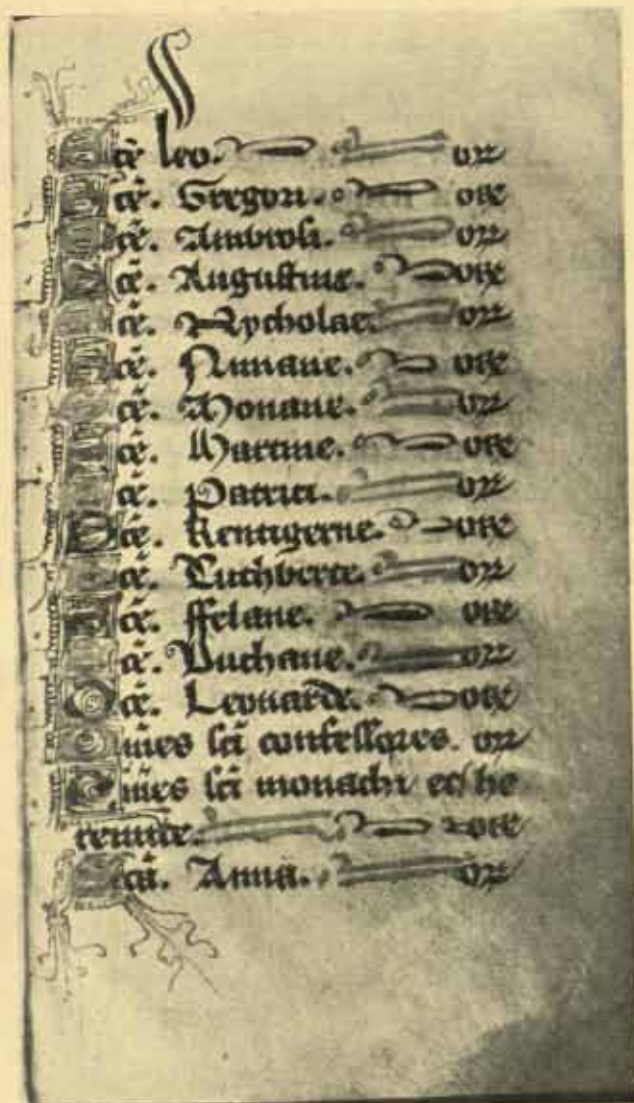


Fig. 7. Part of Litany.

II.

INSCRIPTION ON A CROSS FROM KILCHOMAN, ISLAY.
 BY PROFESSOR W. J. WATSON, LL.D., D.LITT.CELT., F.S.A.SCOT.

Amongst the large collection of sculptured stones in the ruined church and churchyard of Kilchoman, Islay, were two fine crosses, each bearing an inscription. For many years the smaller of these two lay broken on a grave.¹ This cross had been scheduled under the Ancient Monuments Act, 1913. In 1930, on a visit the Inspector of Monuments for Scotland found that the shaft of the cross had again been broken across. To preserve the monument it was purchased by our National Museum and removed from the island under the personal supervision of the Inspector. It has now been set up in the Museum, the pieces being kept in position by a light metal frame (fig. 1). The inscription is carved on the edges, starting below the left arm and being completed on the opposite side. It runs: HEC EST CRUX FAC(TA) PRO ANIMABUS DONCANI MEC INNIRLEGIN ET MARI ET MICHAELIS. The Gaelic part stands for Middle Gaelic, MEIC IND FHIR LEGINN, and the translation of the inscription is: "This is a cross made for the souls of Duncan, son of the Lector, and Mary and Michael."

The proper name Doncanus is a Scottish latinisation of the Middle Gaelic Donchad, now Donnchadh, Duncan. The Irish latinised form appears in the note of a charter of David I. (1124-53) in the *Book of Deer*: "Doncado comite de Fib," "Duncan, earl of Fife." On the other hand, "Dunecano filio Malis," "Duncan, son of Malis," occurs in 1199 in a charter of Inchaffray, and the *Chronicon Elegiacum*, ascribed by Skene to 1270, has Duncanum (accusative) as the name of the king slain by Macbeth.² The spelling of the inscription occurs in a document of 1443 referred to later: "Donald Doncani," "Donald, son of Duncan."

The title *fer léiginn*, or in modern spelling *fear léighinn*, means literally "man of reading," "man who reads," lector, reader, and it was the regular designation of the head or principal of a monastic school both in Scotland and in Ireland. The *Book of Deer* mentions the *fear léighinn* of Turrieff (1131-2). In 1164 Dubh-sidhe (Black of Peace) was *fear léighinn* of Iona.³ About 1211, Lawrence, Archdeacon and Ferleyn, or head of the schools, of St Andrews, appears in connection with a dispute with the Prior and Canons; his title is latinised Ferlanus.⁴ In 1316, "magister Felanus," Rector of the schools of Inverness, is probably for Ferlanus. Part of the possessions of St Peter's Church, Aberdeen,

¹ Graham, *Carved Stones of Islay*, p. 50, No. 50, Pl. xvi.

² *Ann. Ulst.*

³ *Chron. P. and S.*, p. 180.

⁴ *Register of St Andrews.*

INSCRIPTION ON A CROSS FROM KILCHOMAN, ISLAY. 443

was Petenderleyn (*i.e.* Peit ind Fhir léighinn), the Reader's Croft.¹ In addition may be noted "Macbeth Rex Scholarum" of Dunblane, and



Fig. 1. Cross from Kilchoman Kirkyard, Islay.

"Malduueny Rex Scholarum" of Muthil (1214-23),² in connection with the revenues of a half davach of land which had been designed for the use of the "macleins and scoloces"³ of the church of Dunkeld.

¹ *History of Celtic Place-names of Scotland.*

² *Charters of Lindores.*

³ "Maclein" is for *mac léighinn*, "a lad of reading," a student, under the *Fear léighinn*. *Scoloc* means "scholar," or younger monk, who took a large share of the manual work; now in Sc. Gaelic *sgalag*, a farm labourer.

Though there is no direct evidence as to the particular school over which the *fear léighinn* of our inscription presided, it may be naturally conjectured to have been that of Iona.

Certain entries in the *Calendar of Papal Registers* (Bliss and Twemlow, "Letters") are of interest as bearing directly on the terms and possibly on the date of the inscription. The first is under date December 1427:

"The Pope writes to Donald son of Dominic Macanere legu' (i.e. 'mac in fhir léighinn,' 'son of the Reader'), perpetual vicar of St Cathanus's in Gigha (i.e. Kilchattan), in the diocese of Sodor, granting that the letters whereby the Pope lately ordered certain executors to collate and assign to him the perpetual vicarage of St Comanus's (Kilchoman) in the said diocese . . . shall hold good from the date of these presents, as if they did not contain an assertion by Donald that he was by both parents of noble birth, his present petition stating that although he is so, he does not hope to be able to prove it judicially."

In May 1436 the Pope writes to the Prior of Orwansay (Oransay) with regard to Donald, son of Morice Macinnerlegyn, who had obtained the perpetual vicarage of St Comanus's in Islay. Here "son of Morice" is evidently in error for "son of Dominic." The spelling "Macinnerlegyn" approximates to that on the inscription.

In July 1436 the Pope gives instructions to collate and assign to Donald, son of Dominic, a canonry and the prebend in the church of St Columba in Kintyre, notwithstanding that he holds the two vicarages of St Cathanus in Gigha and St Comanus in Islay.

In June 1443 the Pope writes in regard to a serious charge of immorality brought against Donald, son of Dominic Mac an Firlegind (*sic*), perpetual vicar of St Comanus's in Islay. The charge was made by Donald Doncani (Donald, son of Duncan), a clerk in holy orders.

Finally, in May 1463 the Pope writes to Dominic, son of Donald, perpetual vicar of Kilchoman, agreeing to his becoming Rector of Kilchoman, though he is illegitimate.

There can, I think, be no question that the Donald, son of Dominic, son of the Reader, referred to in these letters was of the same family as the Duncan, son of the Reader, of the inscription; the connection of both with Kilchoman proves this. The question is, What exactly is to be understood by the designation "son of the Reader"; in other words, is "mac in fhir léighinn" to be taken literally in the sense that Dominic and Duncan were sons of the Reader and therefore brothers, or is it to be understood as a general family designation like a surname, as it has become in Ireland—MacNerlin, McErlean, etc.? It is difficult to be certain on this point, but my own opinion would be in favour of regarding Duncan of the inscription as actual son of the Reader, otherwise his father would be left unnamed. As to Dominic, it is to be noted that

his grandson Dominic is designated simply "son of Donald," without suggestion of a surname.¹ If, therefore, the former interpretation is to be accepted, as I think it reasonably may, the date of the inscription would be fixed approximately as about thirty years before the death of Donald, son of Dominic, who appears to have died in or about 1463.

III.

TWO LONG CAIRNS (ONE HORNED) AND AN OGHAM INSCRIPTION, NEAR POLTALLOCH, ARGYLL. By J. HEWAT CRAW, SECRETARY.

HORNED CAIRN AT AUCHOISH, ARGYLL.

During April 1931 a further examination of sites on the Poltalloch estates was carried out by Sir Ian Malcolm of Poltalloch, K.C.M.G., and the Society, under my supervision.

On the 1-inch Ordnance Survey map is marked a cairn about $\frac{1}{2}$ mile

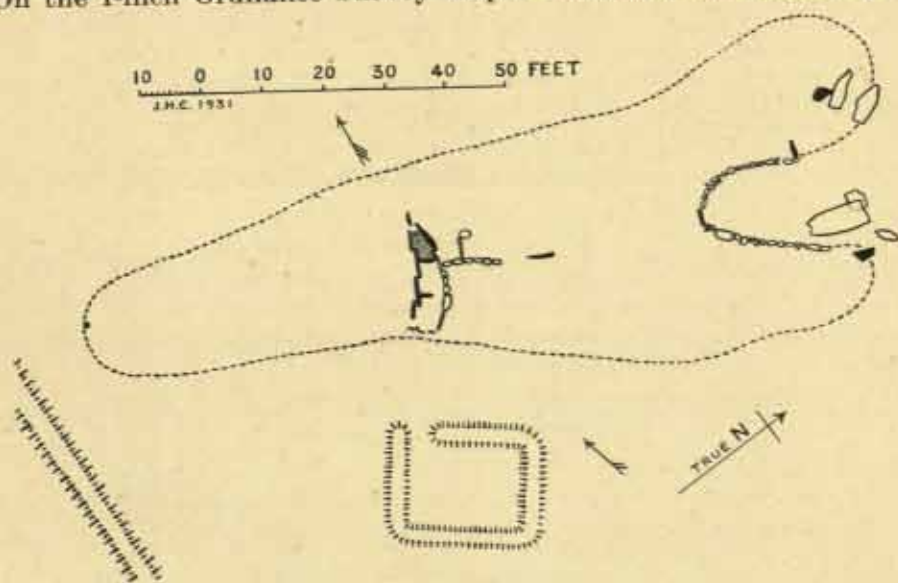


Fig. 1. Plan of Horned Cairn at Auchoish, Argyll.

north-east of Auchoish farmhouse, which stands about $1\frac{1}{2}$ mile to the north of Lochgilphead. I had examined the site the previous year, and found it, though much destroyed, to present the features of a neolithic horned cairn, the only one, so far as I am aware, in this district.

The site is some 450 feet above sea-level, and on gently rising ground facing the west. The cairn (fig. 1) measured 137 feet in length; its

¹ It is, of course, well known that "surnames" in the modern sense are of comparatively recent origin in the Gaelic area.

breadth was 43 feet at the bifurcation of the horns, diminishing to 30 feet at the middle and to 20 feet at the south-west end. The greatest height was about 5 feet at a distance of 15 feet south-west of the bifurcation; it diminished to 2 feet at the south-west end. Much of the material, however, had at some time been removed, the walls of enclosures to the south having doubtless been built from it, while to the east lay a rectangular construction, measuring internally 18 by 12½ feet, the material for which had also been taken from the cairn. The axis pointed approximately north-north-east (27° east of true north).

The work of examining this cairn was carried out with the help of three men from 6th to 10th April, involving about seventeen days' work of one man. A wide trench was made from the south-east side, immediately to the south of the horns, and after reaching the medial line was carried south-west along the whole length of the cairn. The inner edge of the horns was then examined, and excavations were made at intervals along the whole periphery in search of a kerb.

On the medial line, midway between the bifurcation and the south-west end of the cairn, was found a burial chamber of cist-like form, measuring 4 feet 5 inches by 1 foot 10 inches, and 2 feet 9 inches deep,¹ having its axis at right angles to that of the cairn. The bottom was roughly paved and was about 1 foot below ground-level. The sides were each composed of two slabs, the ends of which overlapped after the manner employed in segmented cairns. Outside the cist, to the north-west, was a single slab set in alignment with the south-west side of the cist. The north-west end was formed of two thin slabs placed one behind the other; the inner was of an L shape, one of the upper corners being cut off. The slabs forming the north-east side were much lower than those of the opposite side, and must have had stones resting on them to increase their height. No cover was traceable, and riddling failed to reveal any relics, not even charcoal or bones being found. Between the south-east end of the cist and the edge of the cairn was a passage 3 to 4 feet in width, formed of slabs and large boulders set with a slight curve. At the outer end were three small slabs set as a kerb and projecting a few inches from the ground. Midway between this kerb and the cist was an upright L-shaped slab projecting from the south-west side half-way across the passage. This slab was similar in form to that at the north-west end of the cist, both having been apparently formed by pounding and not by chiselling. From the north-west end of the passage a setting of six large boulders ran north-east parallel to the axis of the cairn for a distance of 10 feet. Three feet

¹ Measurements: north-east side, 4 feet 10 inches; south-west side, 4 feet 3 inches; south-east end, 2 feet 11 inches; north-west end, 1 foot 5 inches.

from the south-west end of this setting a slab 2 feet by 2 feet projected at right angles northward. At its north-west end four stones were built up one above another, so as to present an upright face to the north-east. A large boulder was then placed so as to form a face parallel to the setting of boulders already mentioned, and $3\frac{1}{2}$ feet from them. This construction had the appearance of having been the foundation of a chamber placed along the axis of the cairn, and destroyed at some previous time. Four and a half feet north-east of the setting of six boulders, and in alignment with it, was a slab measuring $4\frac{1}{2}$ feet in length, set on edge and projecting 1 foot 8 inches from the ground. This slab was also in alignment with the south-east edge of a large slab set on end at the bifurcation of the horns of the cairn. It may have formed part of a passage to the chamber, but no other evidence of such could be found.

The slab at the point of bifurcation was set at right angles to the axis; it projected 3 feet 2 inches from the ground, in which it was inserted to a depth of 3 feet. Eighteen feet north of this slab stood another slab, measuring 2 feet 9 inches by 2 feet 3 inches by 8 inches; it was set at right angles to the inner edge of the north-west horn. What had probably been a corresponding stone set at the inner edge of the south-east horn now lay on the ground; it measured 9 feet 8 inches by 4 feet by 1 foot 3 inches, and seemed to have stood at right angles to the edge of the horn. Some 10 feet to the north-east of these slabs the end of each horn had been probably marked by three upright stones; of these one was upright and two had fallen on each horn. Their measurements were as follows: North-west horn (standing), 5 feet 1 inch by 3 feet by 1 foot 8 inches; (fallen), 6 feet 7 inches by 2 feet 2 inches by 10 inches, and 6 feet 9 inches by 2 feet 8 inches by 1 foot 6 inches. South-east horn (standing), 3 feet 3 inches by 3 feet 9 inches by 2 feet; (fallen), 3 feet 5 inches by 1 foot 9 inches by 1 foot, and 2 feet 6 inches by 2 feet 3 inches by 1 foot. The height of the standing stones was measured from the ground; that of the fallen stones is the total length. The fallen stones may have been moved somewhat from their original positions.

During the excavation I picked up a flint knife from a molehill on formerly cultivated ground within the enclosure to the south of the cairn.

LONG CAIRN, AUCHNANGOUL

Though situated in a different district of Argyll, another neolithic cairn may be here described, as it does not seem to have been recorded and is not shown on the Ordnance Survey map. I had the opportunity of visiting the site in April 1932.

The cairn lies about 380 feet above sea-level some 300 yards north-east of Auchnangoul, a hamlet about $2\frac{1}{4}$ miles south-west of Inveraray. The cairn is clearly visible from the main road, from which it is 550 yards distant. It lies on cultivated ground which slopes with moderate steepness to the south, and is about 50 yards distant from the uncultivated moorland above. The length is about 135 feet and the breadth 45 feet; the height is 4 feet 9 inches. There are no horns, and the axis points approximately north by east (30° east of magnetic north). Many of the stones seem to have been removed, especially from the north end, and field-gathered stones have been dumped on the southern part, which is partially covered with stunted trees.

The cairn has been explored at some time, the stones having been removed to leave a trench along the northern part of its axis, revealing a passage and two burial chambers. Some 6 feet from the north end are two portal stones 3 feet 9 inches in height and 1 foot 1 inch apart. To the south of these is a passage 2 feet 5 inches wide formed by two large slabs measuring 8 feet 4 inches and 7 feet 2 inches in length. This leads to a chamber formed by four slabs and measuring 7 feet 1 inch by 3 feet 9 inches by 2 feet 10 inches. The cover is an immense slab 10 feet 6 inches by 6 feet 5 inches, and about 1 foot 3 inches thick. It must weigh about 3 tons, and rests on three of the slabs beneath, there being between it and the north end-slab a space by which it is possible to enter the chamber. Twenty-four feet south of this chamber and placed to the east of the axis of the cairn is a smaller cist or chamber measuring 4 feet 10 inches by about 4 feet. Its axis is at right angles to that of the cairn, and the cover and north side-slab have disappeared.

AN OGHAM INSCRIPTION.

During the excavation of cists at the gravel-pit of Brouh an Drummin, near Poltalloch, in 1928,¹ when a jet necklace and other relics were found, four long graves, evidently of Early Christian date, at the opposite side of the pit were also examined. When revisiting the spot in 1931 my attention was attracted to an inscription in ogham characters cut on the angle of a small fragment of slab lying on the ground close to the position of these graves. The fragment (fig. 2) measures 10 inches by $3\frac{1}{4}$ inches by $2\frac{1}{4}$ inches, and the characters retain unweathered their sharply cut lines. There can be little doubt that it has been broken at some recent time from a slab of one of the graves.

Of some twenty ogham inscriptions that are recorded from Scotland, practically all have come from the east side of the country,

¹ See *Proc. Soc. Ant. Scot.*, vol. lxiii, p. 154.

their range extending from Fife to Shetland. Only one seems to have been recorded from the west, on the Island of Gigha, though ogham characters were also found on the bone handle of a knife from North Uist.

The Society is indebted to Sir Ian Malcolm for placing the relic in the Poltalloch Collection on loan in the National Museum of Antiquities, and also for the help given by him during the excavations.

The following is the report on the inscription by Professor Macalister,

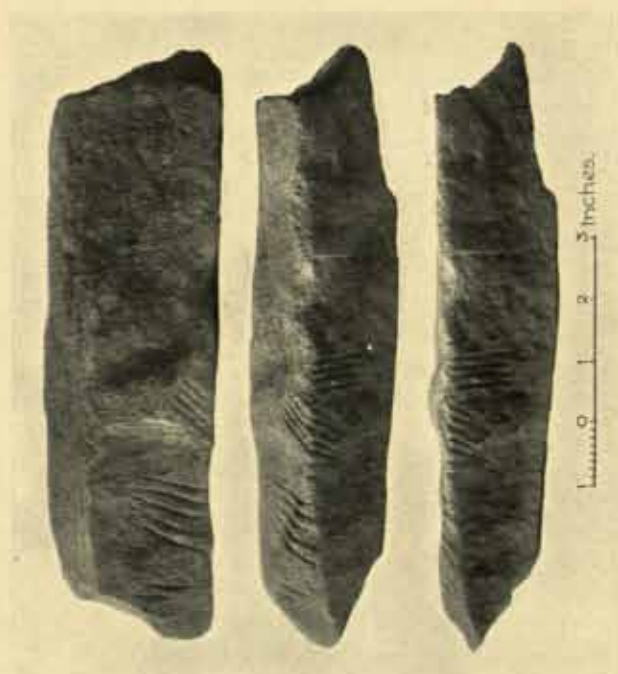


Fig. 2. Ogham Inscription from Poltalloch.

to whom the slab was submitted, and to whom my thanks are due for his careful examination.

The certain letters of the inscription are CRON. The O is represented by two vowel notches in a space which would hold three, and there is ample room for a third notch. Of this, however, there is no trace, and I feel sure that the letter cannot be the U, which three notches would represent.

After the N there are the remains of another letter on the same side of the stem-line. Three scores survive in part, and it is conceivable that some slight irregularities in the fractured surface further

on are the relics of two other scores. However that may be—and it is not to be stressed in any way—the probability that the imperfect letter was another N is overwhelming. CRON(a)V . . . and CRON(a)S . . . do not offer anything promising.

Between the N's there was most probably the single notch of an A, but the slight chip on the angle here has been just sufficient to carry it off.

Before the C there is a mark like a vowel notch. But comparing it with the genuine notches of the O, I am inclined to think it is a mere flaw on the angle.

Before this mark there is a fracture: a flake has scaled off the H surface of the inscription, carrying with it a portion of the arris of the stone, which in consequence here makes a wide shallow U-shaped curve. The left-hand end of the matrix of this flake is visibly an artificial score; and on the floor of the matrix traces of four other scores are to be detected. It is to be noticed that these are about $\frac{1}{8}$ inch shorter than the scores of the C following. They would collectively make Q; and I suspect that the engraver of the inscription inadvertently cut this letter, and then, realising that he had written one score too many, knocked off the flake with a slight tap on the stone and began again. A similar correction is to be seen on at least one other stone, now in the National Museum, Dublin.

The whole inscription as it remains on the fragment is thus CRONAN. That is not an uncommon name in Irish (diminutive of *cron*, brown); and in the misspelt form CRONUN it appears on a stone from Ballyknock, Co. Cork. It is a late example; in the usual ogham convention the name would appear as *Cronagni*. We can say no more unless and until the rest of the inscription should come to light.

It is very satisfactory to get one more ogham relic of the Dalriadic settlers in Argyll. Let us hope for further discoveries of the same sort.

IV.

A KEG OF BOG-BUTTER FROM SKYE AND SOME NOTES THEREUPON.

BY PROFESSOR JAMES RITCHIE, M.A., D.Sc., F.R.S.E., F.S.A.Scot.

To be printed in next year's volume.

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